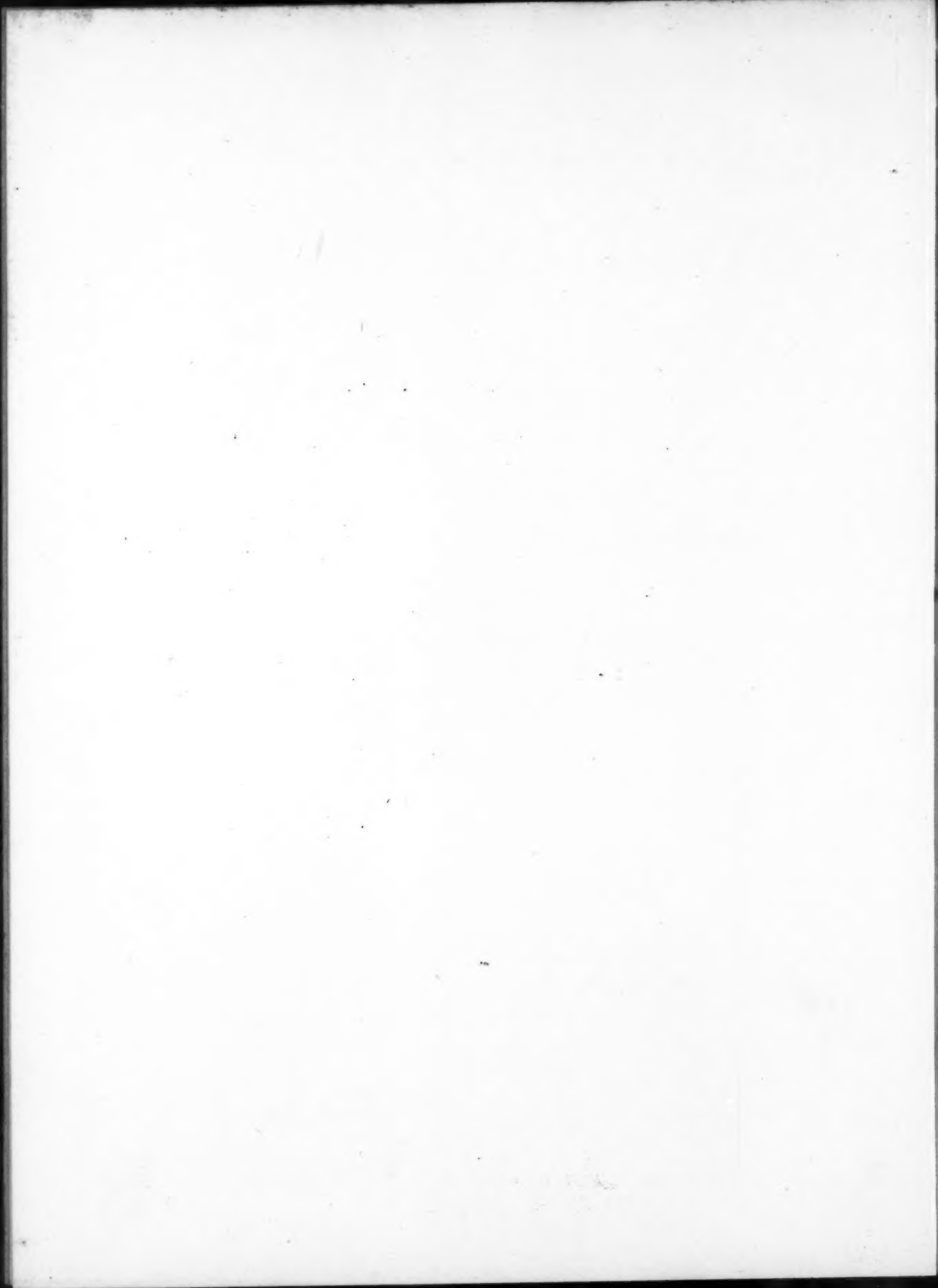


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22

CONTENTS

	PAGE
CHRISTINE ALEXANDER	
Abstract of the Articles on the Bacchic Inscription in the Metropolitan Museum	264
IRENE RINGWOOD ARNOLD	
Local Festivals at Delos	452
P. V. C. BAUR	
The Christian Chapel at Dura	377
J. D. BEAZLEY	
Narthex	400
OSCAR BRONEER	
Excavations in the Agora at Corinth, 1933—Plates LXI-LXIV	354
RHYS CARPENTER	
The Antiquity of the Greek Alphabet	8
HOWARD COMFORT	
Amantius and The Date of C. P. R. 247	287
FRANZ CUMONT	
La Grande Inscription Bachique du Metropolitan Museum—Planches XXX-XXXIII	292
FREDERICA DE LAGUNA	
A Comparison of Eskimo and Palaeolithic Art, Part II—Plates XVIII-XXIV	77
FERDINAND JOSEPH DE WAELE	
The Sanctuary of Asklepios and Hygieia at Corinth—Plates XLVIII-LIII	417
WILLIAM BELL DINSMOOR	
The Last Inventory of the Pronaos of the Parthenon	52
STERLING DOW	
Note on Three Decrees of 306-5 B.C.—Plate XLVII	412
New Readings in the Archon Lists I G II, 1713 and 1716—Plates LXV-LXVI	578
GEORGE W. ELDERKIN	
The Twenty-Sixth Lydian Inscription	387
W. S. FERGUSON	
The Last Inventory of the Pronaos of the Parthenon	52
H. FRANKFORT	
The Work of the Oriental Institute in Iraq	529
EINAR GJERSTAD	
Further Remarks on the Palace of Vouni—Plate LXVII	589
Final Reply on Vouni	658
NELSON GLUECK	
Palestinian and Syrian Archaeology in 1932	160
Prehistoric Rock-Drawings in Transjordan	381
HETTY GOLDMAN	
Excavations at Stobi in Jugoslavia	297
EUGENE A. GOLOMSHTOK	
The Pazirik Burial of Altai—Plates I-VI	30
M. P. GRIAZNOV	
The Pazirik Burial of Altai—Plates I-VI	30
LEICESTER B. HOLLAND	
The Mantic Mechanism at Delphi	201
LOUISE ADAMS HOLLAND	
Qui Terminum Exarasset	549
G. AND A. HORSFIELD	
Prehistoric Rock-Drawings in Transjordan	381
GEORGIANA GODDARD KING	
Some Reliefs at Budapest—Plates X-XVII	64

	PAGE
K. KOUROUNIOTES	
Excavations at Eleusis, 1932—Plate XXXIV	271
The Athenian Pnyx	652
NAPHTALI LEWIS	
New Light on the Greek House from the Zenon Papyri.	397
BENJAMIN D. MERITT	
The Archonship of Ekphantos.	46
VALENTIN MÜLLER	
A Reply	599
GEORGE E. MYLONAS	
Excavations at Eleusis, 1932—Plate XXXIV	271
GISELA M. A. RICHTER	
Two Bronze Statuettes—Plates VII-VIII	48
Note on the Running Drill	573
MARGARET RICKERT	
A Rhodian Stele—Plate XLVI	407
D. S. ROBERTSON	
A Letter to the Editor	656
DAVID MOORE ROBINSON	
A New Greek Inscription from Macedonia	602
M. ROSTOVITZ	
Hadad and Atargatis at Palmyra—Plate IX	58
ERICH F. SCHMIDT	
The Joint Expedition to Persia	303
T. LESLIE SHEAR	
The Current Excavations in the Athenian Agora—Plates XXXV-XXXVIII	305
The Latter Part of the Agora Campaign of 1933.	540
E. A. SPEISER	
The Ethnic Background of the Early Civilizations of the Near East	459
AGNES NEWHALL STILLWELL	
Eighth Century B.C. Inscriptions from Corinth	605
HOMER THOMPSON	
Activities in the American Zone of the Athenian Agora, Summer of 1932.	289
The Athenian Pnyx	652
ACHILLE VOGLIANO	
La Grande Iscrizione Bacchica Del Metropolitan Museum—Tavole XXVII-XXIX	215
FREDERICK O. WAAGÉ 3d	
Note on Mottled Vases.	404
GENERAL MEETING OF THE ARCHAEOLOGICAL INSTITUTE OF AMERICA	108
ARCHAEOLOGICAL NOTES—Plates XXXV-XXXVIII, XXXIX-XLV	1, 297, 377, 529
ARCHAEOLOGICAL NEWS AND DISCUSSIONS	117, 313, 467, 611
Necrology	117, 467, 611
Prehistoric	118
Egyptian	118, 313
Oriental	119, 314, 468, 611
Classical	126, 318, 476, 613
European	134, 329, 488, 620
The United States and Alaska	137, 624
Central America	140
Great Britain	331, 623
Early Christian, Byzantine and Mediaeval	142, 331, 489, 624
Renaissance and Modern	145, 334, 489, 626
NEWS ITEMS FROM ATHENS—Plates LIV-LV	152, 336, 491, 627
NEWS ITEMS FROM ROME—Plates LVI-LX	497
PALESTINIAN AND SYRIAN ARCHAEOLOGY	160
BOOK REVIEWS	173, 343, 509, 631
REPLIES TO BOOK REVIEWS	652
BIBLIOGRAPHY OF ARCHAEOLOGICAL BOOKS, 1932	363
LIST OF ABBREVIATIONS	200

PLATES

- I. Ornaments of Gilded Leather from Rim of Sarcophagus
- II. ABC. Motives from Saddle Covers. D. Bird Motives Used by Native Amur Tribes
- III. Decorations of Wood on Bridles of Pazirik Horses. Animal Motives
- IV. Carpet of Woven Wool with Multicolor Appliqué. Griffin and Elk. Kozlov Expedition, Mongolia
- V. A. Ornamental Plate of Carved Wood from Siberia
B. Ornament from a Shield. Chased Gold
- VI. Girdle Clasps of Gold, Some Inlaid with Turquoise and Coral. Siberia
- VII. A. Bronze Statuette, Greek, Fourth Century B.C. (Haviland)
B. Bronze Statuette, Roman Copy of a Greek Work of the Fourth Century B.C. (Providence)
- VIII. A. Back View of Statuette Illustrated in Plate VII A
B. Back View of Statuette Illustrated in Plate VII B
- IX. Representations of Hadad and Atargatis
- X. Budapest, Museum. Grave Stelae
- XI. Budapest, Museum. Grave Reliefs
 1. Aeneas Escaping from Troy
 2. Bellerophon Slaying the Chimaera
- XII. Budapest, Museum. Grave Reliefs
 1. Oedipus and Sphinx
 2. Ganymede
 3. Leda and the Swan
- XIII. Budapest, Museum. Grave Reliefs
 1. Perseus Slaying Medusa. Athena
 2. Iphigenia Brought Back from Taurus
- XIV. Budapest, Museum. Grave Reliefs
 1. Theseus Slaying the Minotaur
 2. Theseus and Ariadne
- XV. Budapest, Museum. Grave Reliefs
 1. Apollo, Marsyas and the Scythian Whetting His Knife
 2. Herakles Resting from His Labors
- XVI. Budapest, Museum. Grave Reliefs
 1. Orpheus Charming the Beasts
 2. Orpheus Bringing Back Eurydice
- XVII. Budapest, Museum. Grave Reliefs
 1. Herakles Bringing Back Alcestis
 2. Herakles Delivering Hesione
- XVIII. A. Illustrations of Dot Ornament
B. Illustrations of Dot-and-Circle Ornament and Spurred Circle
- XIX. A. Illustrations of Dot-and-Circle and Spurred Circle
B. Illustrations of the Line Crossed by Spurs and the Line with Spurs on One Side
- XX. A B. Illustrations of the Line with Spurs on One Side
- XXI. A B. Illustrations of the Line with Paired Spurs on Both Sides
- XXII. A B. Illustrations of the "Arrow," "Tree" and "Y" Figures
- XXIII. A B. Illustrations of the "Ladder" Pattern
- XXIV. A. Illustrations of Lines with Alternating Spurs
B. Illustrations of the Zig-Zag and Chevron
C. Illustrations of Needlecases and Bone Plates
- XXV. Perachora
 1. Geometric Bronze Horse
 2. Bronze Gorgon. Ca. 550 B.C.
 3. Bronze Dove. Seventh Century B.C.
 4. Ivory Sphinx. Early Protocorinthian
- XXVI. Perachora
 5. Stoa. End of Fifth Century
 6. Small Harbor from West. Foundations of Sixth Century Temple
 7. Protocorinthian Fragment. Early Seventh Century
 8. Handle Plate of Column Crater. Middle Corinthian

- XXVII. Bacchic Inscription. The Metropolitan Museum of Art
 XXVIII. Bacchic Inscription. The Metropolitan Museum of Art
 XXIX. Bacchic Inscription. The Metropolitan Museum of Art
 XXX. Rome, Museo delle Terme. Stuc de la Farnésine
 XXXI. 1. Musée de Naples. Amphore de Ruvo
 2. Rome, Museo delle Terme. Plaque Décorative de Terre-Cuite
 XXXII. 1. Paris, Louvre. Bas-Relief
 2. Paris, Louvre. Plaque Campana
 XXXIII. 1. Rome, Museo delle Terme. Stuc de la Farnésine
 2. Florence, Musée Des Offices. Verre Trouvé en Etrurie
 XXXIV. Telesterion at Eleusis. Plan. Excavations of 1931-32
 XXXV. The Plan of the American Zone of the Agora
 XXXVI. 1. The Statue of a Winged Nike. Fourth Century B.C.
 2. Statue of a Woman. Roman Copy of a Greek Work
 XXXVII. 1. Statuette of Aphrodite. Roman Period
 2. Statuette of Attis. Second Century A.D.
 XXXVIII. 1. Roman Portrait of Republican Period
 2. Portrait of the Emperor Commodus.
 XXXIX. 1. Qeşir 'Amra. Omayyad Hunting-Lodge and Bath House
 2. Qasr Harâneh. Most Striking Omayyad Residence in Eastern Transjordan (Persian Influence)
 3. Arab Legion Fort, Bayir Wells
 4. Building of Christian Settlement at Kilwa
 XL. 1. Prehistoric Rock-Drawing. Large Ox Superimposed on Two Ibexes, Man Below
 2. Head of Ox Belonging to No. 1
 XLI. 1. Detail of Composite Picture. Ibex with Ox Superimposed
 2. Detail of Composite Picture. Figure of Prehistoric Man
 XLII. 1. Prehistoric Rock-Drawing of Small Ibex
 2. Rock-Drawing of a Tiny Ibex.
 XLIII. 1. Rock-Drawing of Ibex Over Finely Outlined Ibex
 2. Prehistoric Rock-Drawing of an Oryx
 XLIV. 1. Prehistoric Rock-Drawing of a Leopard (?)
 2. Prehistoric Rock-Drawing of a Horned Animal in Motion
 XLV. 1. Neolithic Rock-Drawing of an Ox
 2. Rock-Drawing of Diminutive Ibex or Goat, Historic Period
 XLVI. The Rhodian Stele of Kriton and Timarista
 XLVII. I. G.² II 773. Scale 1:2
 XLVIII. 1. Asklepieion from the South (From D-7)
 2. Asklepieion from the Southwest, End 1931. (From D-12)
 XLIX. 1. Temple-Cuttings from the East (From G-5)
 2. Asklepieion from the Southwest Corner of the Hill (From E-12)
 L. 1. North Side of the Temple Hill from the East (From K-3)
 2. Asklepieion and Lerna During Campaign of 1932 (From D-16)
 LI. 1. Abaton and Lerna from Lerna Square (From J-15)
 2. Abaton and Asklepieion from the Southwest (from D-14)
 LII. 1. Head of a Divinity (Zeus?)
 2. Female Head of Terracotta
 LIII. Silver Treasure from Modern Times
 LIV. 1. South Side of Peribolos of Academy
 2. Street Leading from the Dipylon to the Academy with Tombs on Either Side
 LV. 1. General View of Palaestra, Academy, Athens
 2. Troy. General View of South Tower and Gate from S.W., Baetyls at Right
 LVI. 1. Forum of Julius Caesar. Portion of Frieze of Cella of Temple of Venus Genetrix. Trajanic Rebuilding
 2. Forum of Julius Caesar. Architrave of Temple of Venus Genetrix. Trajanic Rebuilding
 LVII. The "Kyniskos" of Castelgandolfo
 LVIII. Cumae. Entrance to the Cave of the Sibyl (Right) Showing Long Gallery (Left)

- LIX. Herculaneum. General View with Important House in Foreground
- LX. Pompeii. Casa del Menandro. The Principal Atrium
- LXI. 1. East Area from the North Showing Circular Base, Agora, Corinth
- 2. East Area from the South Showing Walls of Greek Shops, Agora, Corinth
- LXII. 1. Large Room with Exedra; Early Wall in Foreground, Corinth
- 2. West Area from South, Showing West Wall of S. Stoa, Corinth
- LXIII. 1. Latin Inscription in Honor of Caelius Martialis
- 2. Latin Inscription in Honor of Manlius Juvenus
- LXIV. The Mosaic and Roman Statue from Corinth
- LXV. *I.G.*² II, 1716. Scale 2:3
- LXVI. *I.G.*² II, 1716. Scale 1:2
- LXVII. General Plan of the Palace at Vouni

ILLUSTRATIONS IN TEXT

	PAGE
Stone Age Village Near Persepolis	1
Persian Relief Sculptures from Monumental Staircase	2
Small Stairway with Relief Sculptures, Persepolis Palace	3
Relief Showing Tribute Bearers from Small Stairway	3
The Lansdowne Amazon	4
The Lansdowne Amazon	5
Trebenishte. Golden Mask	6
Trebenishte. Two Small Polychrome Glass Vases	6
Trebenishte. Earrings of Gold, Some with Granular Decoration	7
Trebenishte. Silver Pins with Gold Heads	7
Trebenishte. Bronze Incense Burner	7
Trebenishte. Sphinxes on a Bronze Vase	7
Excerpt from the Mesha Stone	11
Early Semitic Alphabets	12
The Cyprus Bowl	13
Phoenician Inscription from Abu-Simbel	14
Aramaic Inscription Contemporary with Cyprus Bowl	14
Inscriptions at Abu-Simbel	23
Inscriptions at Thera	26
Pazirik. General View. The Excavated Kurgan in the Center	33
Cross Section of the Mound Showing Construction of Burial Chamber	33
Ground Plan of the Burial	34
Sarcophagus from the Burial Chamber	35
Fragment of Felt Carpet Decorated with Tigers' Heads in Appliqué Work	35
Horse in Mummified Condition	36
Reconstruction Showing Bridle and Saddle Trappings of Pazirik Horses	36
Reconstruction of Saddle	36
Saddle in Embroidery and Appliqué Showing Animal Style	37
Bridle of Carved Wood	38
Bridle of Wood, Some Horns of Leather	38
Horse Trappings of Carved Wood. Plant Motive	39
Horse Trappings of Carved Wood. Anthropomorphic Design	39
Horse Trappings of Carved Wood. Conventionalized Animal Design	39
Horse Trappings of Carved Wood. Elk with Horns of Leather	39
Wooden Horse Trappings with Geometrical, Animal and Conventionalized Animal Motives	39
The "Reindeer" Mask	40
Reconstruction of Mask Showing Reindeer Horns and Gilded Leather	40
Reconstruction of Mask Representing a Griffin and Bear	40
Ornamental Plaques of Carved Wood from Siberia	40
Gold Ornaments from the "Seven Brothers," Kuban District	40
Lines 2-9 of Rhamnousian Inscription Showing Erasure in Line 6	46
Detail of Haviland Statuette	50
Restoration of Last Inventory of Pronaos of the Parthenon	54

	PAGE
Ithaca. Aetos. Protocorinthian Vases from Upper Stratum	156
Ithaca. Aetos. Oenochoe and Ring Flask. Imported Ware	157
Ithaca. Aetos. Bird-Shaped Vase, Perhaps an Oil Flask	157
Ithaca. Aetos. Protocorinthian Votive Bronzes	158
Ithaca. Polis. Handle from a Bronze Tripod	158
Ithaca. Aetos. Vase with Signature of Artist Kalikleas	301
Aegeus and Themis. Vase-Painting	202
Naples. National Museum. Omphalos. Design on a Lekythos	206
Relief from the Piraeus Showing Tripod and Omphalos	207
Relief from Sparta Showing Omphalos	207
Delphi. Temple of Apollo. Block from Western End	207
Delphi. Temple of Apollo. Pavement Block. Plan	208
Bronze Cista, Barberini Collection. Apollo Beside Omphalos	210
Delphi. Poros Omphalos	213
Delphi. Poros Omphalos. Plan and Section	213
Coupe de Perennius	240
Sarcophagi Trouvé Près de la Porta Salaria	261
Eleusis. Foundation of Peisistratean Column	273
Eleusis. Foundation of Cimonian Column	274
Eleusis. Foundation of Roman Column	274
Eleusis. Remains Below the Archaic Telesterion	275
Eleusis. Sherds from Megaron B and Peribolos E	276
Eleusis. Plan of Megaron B and Its Peribolos	277
Eleusis. Northeast Corner of Structure H	277
Eleusis. Middle Helladic Burial in Section I	278
Eleusis. Retaining Wall N and Stairway N ¹	279
Eleusis. Figurines from the Sub-Geometric Pyre	280
Eleusis. Retaining Wall of the Archaic Period	280
Eleusis. Detail of Archaic Retaining Wall	281
Eleusis. Black-Figured Stand from the Archaic Pyre	282
Eleusis. Black-Figured Stand. Hermes	282
Eleusis. Terracotta Figurines from the Archaic Pyre	282
Athens, Agora. Siren Oinochoe	292
Athens, Agora. Oinochoe. Herakles in Olympos	292
Athens, Agora. Sphinx Amphora	293
Athens, Agora. Cup with Bride and Dwarf	293
Athens, Agora. Plastic Vase. Kneeling Boy	294
Athens, Agora. Ostraka with Names Hipparchos, Megakles, Aristekides, Themistokles, and Hippokrates	295
Stobi. Architectural Details of Capitals, etc.	298
Stobi. Architectural Details. Parthenios Palace	299
Stobi. Dancing Satyr. Parthenios Palace	299
Stobi. Roman Matron. Policharnus Palace	300
Stobi. Statue of a Citizen	300
Stobi. Capitals	301
Persia. Hissar I. Bowl with Ibex Design	302
Persia. Hissar II. Pottery	302
Persia. Hissar III. Bottle Pitcher	302
Persia. Sassanian Stag Plaque	304
Athens. Agora. North Area of the Excavations. View from S. W.	305
Athens. Agora. Portrait of the Emperor Claudius	308
Athens. Agora. Black-Figured Panel. Combat of Herakles and Amazons	310
Athens. Agora. Attic R.-F. Cylix	311
Athens. Kerameikos. Plan of Seventh Century Offering-Channels with Crude Brick Monument of Solon's Time Above	338
Athens. Kerameikos. Stele of Ampharete	339
Athens. Kerameikos. Mound of Hagia Triada with Tombs	340

CONTENTS

11

	PAGE
Athens. Kerameikos. Horse and Rider from Grave Monument	341
The Christian Church at Dura-Europos. Restored	378
Detail. Holy Women at the Tomb of Christ	379
Map of Region Around Kilwa Where Prehistoric Rock-Engravings were Discovered	382
Kilwa. Building Block with Cross from Hermit's Cell	384
Kilwa. Lintel with Aramaic Inscription and Maltese Cross	384
Kilwa. Sandstone Hill on which Prehistoric Rock-Drawings Were Found	385
Prehistoric Rock-Drawing of Wounded Ibex	385
Inscribed Lydian Grave Stele	387
An Attic Grave Stele	387
A Tomb at Albano	395
Phiale in Boston	400
From a Phiale in Boston	401
From a Lekythos in Bowdoin College	401
From a Lekythos in the Museum of the Scala at Milan	401
From a Nolan Amphora in the Royal Library at Brussels	402
Oinochoe in the Louvre	402
From a Cup in the Cabinet des Médailles	403
<i>I.G.</i> II, 474. Scale 3:4	412
<i>I.G.</i> II, 476. Scale 5:6	413
<i>I.G.</i> II, 773. Scale 2:5	414
Corinth. Plan of the Asklepieion and Lerna	417
Corinth. Asklepieion and Lerna from the North (From S-11)	419
Corinth. Fragment of a Greek Grave Stele	440
Corinth. Legs and Thighs as Votive Offerings	442
Corinth. Archaic Terracotta Head	446
Dura: Frescoes. North Half of Upper Panels: The Exodus, Red Sea, etc.	471
Dura: Frescoes. The Return of the Ark and Overthrow of Dagon	471
Dura: Seat of Chief Priest and Upper Panels of Paintings	472
Dura: Frescoes. Dedication of Priesthood of Aaron, etc.	473
Dura. Lower Part of Painted Shield	473
Dura. Representative Tiles from Ceiling of Synagogue	474
Troy. Altar-Like Stone Surrounded by Circular Pavement	494
Troy. Mass of Fallen Stones Probably from Wall of Troy II	494
Troy. General View of Palaestra from North	495
Troy. Mosaic Representing Pygmy and Crane	495
Troy. West Half of Orchestra of Theater	496
Rome. Plan of the Imperial Fora	498
Rome. Colonnade Near the Column of Trajan	499
Rome. One of Libraries of Trajan	500
Rome. North Side of Basilica of Maxentius: Via Dell' Impero	500
Ardea. View Looking North from Temple Terrace, etc.	504
Ardea. S. E. Side of Columnar Building	504
Ardea. Painted Chamber Tomb. Plan and Section	505
Ardea. Painted Chamber Tomb. View of Interior. Restored	505
Tell Asmar. Kitchen of an Early Sumerian House with Window	531
Tell Asmar. Sumerian House with Hearth, Bench, and Arched Door	531
Tell Asmar. The Bakery—A Room with Two Bread-Ovens	531
Main Sewer of an Akkadian Palace	532
A Jar Containing Sixty Copper Objects	532
Copper Objects from Jar	532
Pottery Types. A Soup "Tureen" and Pilgrim Bottles	533
The Temple of Ab-u, Lord of Vegetation, etc.	534
Relief Plaque. A Man and Woman Offering Gifts to a God	534
Alabaster Group in Half Relief of a Fertility God with Worshippers	534
Akkadian Cylinder Seal (2500 B.C.). Oriental Prototype of Herakles Slaying the Hydra	536
Aqueduct of Sennacherib	536

	PAGE
Cuneiform Tablet Containing List of Assyrian Kings	538
Ashlar Masonry of Sennacherib's Aqueduct	539
Athens, Agora. A Mycenaean Gold Signet Ring	540
Athens, Agora. Fresco of Simeon Stylites in the Byzantine Chapel	541
Athens, Agora. Marble Base with Relief. Fourth Century B.C.	542
Athens, Agora. Colossal Statue of Pergamene Style	543
Athens, Agora. Figure of Dionysos on a Marble Base. Neo-Attic Style	543
Athens, Agora. Portrait of a Greek Philosopher	545
Athens, Agora. Head of Augustus as a Young Man	545
Athens, Agora. Lead <i>Tabellae Defixionum</i>	546
Athens, Agora. Portrait of a Lady of the Roman Period	547
Athens, Agora. Portrait of a Man of the Roman Period	547
Athens, Agora. Terracotta Mask	548
Corinth. The South Stoa. Plan	555
Corinth. Antefix and Ridge Palmettes from South Stoa	557
Corinth. Raking Sima from South Stoa	558
Corinth. Cross Walls of South Stoa. Scale 1:100	559
Corinth. Figurines from Terracotta Deposit	560
Corinth. Shields from Terracotta Deposit	561
Corinth. Fragments of Roman Sima	564
Corinth. Marble Gaming Board	564
Corinth. West End of South Stoa and Colonnade with Archaic Columns	565
Corinth. Painted Relief of Warrior	566
Corinth. Protocorinthian Grave at West End of Agora	567
Corinth. Protocorinthian Aryballos from Grave	567
Corinth. Objects from Chicken Grave	569
Corinth. Lion's Head of Poros	569
Corinth. Crowning Member from a Circular Pedestal	570
Corinth. Two Byzantine Plates with Incised Decoration	571
Corinth. Byzantine Plate with Green Glaze	571
Corinth. Plate with Incised Decoration	571
Detail of the Frieze of the Parthenon Showing the Use of the Stationary Drill	574
Detail of a Metope of the Parthenon Showing the Use of the Stationary Drill	574
The Running Drill in Operation	574
The Running Drill Seen in Fig. 3	574
A Groove Produced by the Running Drill	575
Detail of Three-Sided Relief in Boston Showing the Use of the Stationary Drill	575
Detail of the "Aberdeen Herakles" Showing Use of Running Drill	575
Detail of a Metope of the Parthenon Showing Use of Running Drill	576
Detail of the Frieze of the Parthenon Showing Use of Running Drill	576
Detail of the Statue of Demeter from the East Pediment of the Parthenon Showing the Use of the Running Drill	576
Reverse of Squeeze I.G. ² II, 1713, Column III	580
I.G. ² III, 105. Scale 1:3	583
I.G. ² III, 104. Scale 1:1	584
The Palace of Vouni, Period I	590
The Byzantine Tower at Mariana After the Earthquake	602
Inscription Found in the Tower at Mariana	603
Corinth. Inscribed Sherds from the Potters' Quarters	605
Corinth. Geometric Sherds Found with Inscriptions	607
Corinth. Sherds of Geometric Protocorinthian Skyphoi, etc.	607
Corinth. Sherds of Geometric Protocorinthian Kraters	608
Perachora. Triglyph Altar in Foreground, Stoa Behind	627

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CONTENTS

ARCHAEOLOGICAL NOTES	1
THE ANTIQUITY OF THE GREEK ALPHABET—Rhys Carpenter	8
THE PAZIRIK BURIAL OF ALTAI—Plates I-VI—M. P. Giaznov, Eugene A. Golomshtok	30
THE ARCHONSHIP OF EKPHANTOS—Benjamin D. Meritt	46
TWO BRONZE STATUETTES—Plates VII-VIII—Gisela M. A. Richter	48
THE LAST INVENTORY OF THE PRONAOS OF THE PARTHENON—W. S. Ferguson, W. B. Dinsmoor	52
HADAD AND ATARGATIS AT PALMYRA—Plate IX—M. Rostovtzeff	58
SOME RELIEFS AT BUDAPEST—Plates X-XVII—Georgiana Goddard King	64
A COMPARISON BETWEEN ESKIMO AND PALAEOLITHIC ART, PART II—Plates XVIII-XXIV—Frederica de Laguna	77
GENERAL MEETING OF THE ARCHAEOLOGICAL INSTITUTE OF AMERICA	108
ARCHAEOLOGICAL NEWS AND DISCUSSIONS—David M. Robinson	117
NECROLOGY	117
PREHISTORIC	118
EGYPTIAN	118
ORIENTAL	119
CLASSICAL	126
THE UNITED STATES AND ALASKA	137
CENTRAL AMERICA	140
EARLY CHRISTIAN, BYZANTINE AND MEDIAEVAL	142
RENAISSANCE AND MODERN	145
NEWS ITEMS FROM ATHENS—Elizabeth Pierce Blegen	152
PALESTINIAN AND SYRIAN ARCHAEOLOGY—Nelson Glueck	160
BOOK REVIEWS—Edith Hall Dohan	173
LIST OF ABBREVIATIONS	200



ARCHAEOLOGICAL NOTES

THE Oriental Institute of the University of Chicago reports discoveries of unusual importance at the site of Persepolis in ancient Persia.* According to information received by Dr. James H. Breasted, Director of the Institute, the Persian Expedition under the leadership of Dr. Ernst Herzfeld has uncovered a Stone Age village of 4000 B.C. and magnificent sculptures dating back to the time of Cyrus the Great.

"Within two miles of Persepolis," according to Dr. Breasted, "Dr. Herzfeld found a small mound some three hundred by six hundred feet in area and only ten or twelve feet in height, which when excavated was found to cover a Stone Age village



FIG. 1.—STONE AGE VILLAGE NEAR PERSEPOLIS

in a state of preservation surpassing any such discovery ever made heretofore. It dates from about 4000 B.C." (Fig. 1).

The walls of the *adobe* houses are preserved in places to a height of six or seven feet. There is a narrow street or alley extending the length of the little settlement, and a modern visitor walking along it can look over into the houses. Through the doors and the earliest known windows ever found, one can see mural decorations in red ochre still discernible on the walls. Standing about on the floors are household utensils of pottery, fireplaces with burned clay fire-dogs still in position, and pottery vessels still containing the remains of food, especially the bones of domesticated animals. In some of the dishes lay the flint knives with which these ancient people had last eaten about six thousand years ago.

The polychrome designs and motives painted on the pottery mark a new chapter

*Information and photographs by the courtesy of Mr. Charles Breasted of the Oriental Institute.

in the history of prehistoric art, in the opinion of Dr. Herzfeld. "With the exceptions of some potsherds of the Stone Age in Babylonia, the finds that have come out of this Stone Age hill by Persepolis both in age and in beauty throw everything later into the shade." Such remains disclose to us the earliest prehistoric ancestry of the civilization which reached its culmination in the palaces of Persepolis.

More important discoveries, however, were made in the form of the



FIG. 2.—PERSIAN RELIEF SCULPTURES FROM A MONUMENTAL STAIRCASE WHICH WILL BE RESTORED

ago (Fig. 2). These reliefs if set together would form a vast panel five or six feet in height and almost a thousand feet in length.

The subject matter of the reliefs is a magnificent *durbar* (Fig. 3) representing a great group of Persian and Median officials standing with the gorgeous uniformed palace guards of the Persian Emperor drawn up at one side to receive the ambassadors of twenty-two subject nations who approach from the other side bearing their tribute to Persia* (Fig. 4). The execution of the scenes displays unparalleled beauty and refinement of detail. The palace guards, consisting of footmen, horsemen, and charioteers, form a superb ensemble. In the sculptor's representation of each chariot wheel, the bronze nail which was dropped through a hole in the end of the axle outside of the hub to prevent the wheel from coming off, is depicted in every detail; and the upper half of each nail consists of a beautifully sculptured female figure

* Cf. *Archäologische Mittheilungen aus Iran*, Vol. I (Herzfeld).

wall sculptures decorating the palace of the time of Cyrus. The walls of the splendid palaces which stood on the gigantic terrace of Persepolis overlooking a mighty plain encircled by mountains, were of sun-dried brick, but the colonnaded halls, the windows and the great doors were done in black stone which was polished like ebony. It was due to the disintegration and final fall of the great mud-brick walls that the newly discovered sculptures were preserved and protected from the ravages of weather and vandalism through nearly two thousand five hundred years after they were created. The carvings, which include a series of historical inscriptions of the greatest importance, are as fresh as the day when the sculptors' chisels touched them for the last time. The expedition will restore the reliefs on the monumental staircase discovered many years



FIG. 3.—SMALL STAIRWAY WITH RELIEF SCULPTURES JUST DISCOVERED IN A PERSEPOLIS PALACE carved with the delicacy of a cameo in an area not as large as a postage stamp, the legs of the figure forming the stem of the nail which is inserted in the hole in the axle.

The friezes and sculptured scenes were embellished with colors now all lost except in one relief just discovered by Herzfeld. It had been sheltered from the weather under rubbish for centuries. Now uncovered, it reveals the Persian Emperor wearing a robe bordered with scarlet and purple, shoes of scarlet, and other finery in royal hues.

"One tradition has it that Alexander the Great in a drunken debauch set fire to the roof of one of these palaces in 330 B.C., causing a disaster which marked the end of the evolution of Oriental civilization in Western Asia. When the Moslems overflowed into this region in the seventh and eighth centuries of the Christian Era, they battered to pieces the heads and faces of the sculptured figures they found still visible above the ground at Persepolis. But the sculptures which the Oriental Institute has now dis-



FIG. 4.—RELIEF SHOWING TRIBUTE BEARERS FROM SMALL STAIRWAY

covered escaped their notice and constitute an important contribution to the history of ancient art."

THE LANSDOWNE AMAZON

The Lansdowne Amazon, an exceptionally fine Roman copy of a great work attributed to Polykleitos, has been acquired by The Metropolitan Museum of Art



Courtesy of the Metropolitan Museum of Art

FIG. 5.—THE LANSDOWNE AMAZON

through the generosity of John D. Rockefeller, Jr. (Fig. 5). The coming of the statue to New York is an event of great moment. The Museum now possesses two excellent copies of famous works by this master. The Lansdowne Amazon reproduces an original which won the first prize in a contest in which Polykleitos, Pheidias, Kresilas and Phradmon competed. Each artist made an Amazon, the finest one destined to adorn the Temple of Artemis at Ephesos. Of the several Roman copies extant, only the one in Berlin ranks with the Metropolitan statue, while the New York example alone preserves many elements that give essential clues for a reconstruction. The left hand of the Lansdowne copy has now been replaced by a plaster cast made from the Berlin example. The beauty of the statue is such that its appeal to all observers is immediate (Fig. 6). (Cf. G. M. A. Richter, *Bull. Metr. Mus.* 1933, pp. 2-5.)

NEW DISCOVERIES AT TREBENISHTE

Professor Nicolas Vulić of the University of Belgrade has followed up his important discoveries made in Jugoslavia in 1930 (cf. *A.J.A.* 1931, pp. 250 ff.) by the discovery and excavation of four new tombs.* Many precious objects of gold, silver, glass, iron and terracotta were found, dating mainly from the sixth cen-

* The photographs, which are published here by the courtesy of the Press Bureau in Belgrade, were procured by H. Goldman, Editor of *New Excavations*, and Prof. V. Fewkes of the Editorial Staff of the Journal.



FIG. 6.—THE LANSDOWNE AMAZON, A ROMAN COPY OF A GREEK WORK ATTRIBUTED TO POLYKLEITOS

Courtesy of the Metropolitan Museum of Art



FIG. 7.—TREBENIShte. GOLDEN MASK

several of very large size. There were two tripods of bronze and a small incense burner (Fig. 10), other examples of which have been discovered on this site. One vase of bronze was decorated with three small sphinxes (Fig. 11).

Two glass vases from the site with polychrome coloring are unusually fine (Fig. 12). They are 10–12 cm. in height and are perfectly preserved. Objects in amber came to light in great numbers, and some objects in iron. One Greek vase of Black-Figured type was discovered and a plate. These give a clue to the date of the Necropolis. Human bones were found which will allow the size of the Illyrian people who inhabited these regions to be determined.

Women appear to have been buried in these tombs whereas men were found in the earlier ones. A city must have lain near the Necropolis. The site of this city and the excavation of other tombs will form the object of further researches.

tury B.C. Most remarkable was a well-preserved mask of gold (Fig. 7). The type is entirely different from that of the mask discovered in 1930, but bears resemblances to some found earlier. The face is surrounded by a guilloche decoration in repoussé. Especially interesting is the jewellery. Three golden earrings in the form of a triangle are adorned with granulated decoration (Fig. 8). One earring is shaped like a small bottle. Others have several hoops of gold. Massive rings of gold were also found and several gold leaves. There were numerous objects in silver, such as pins, fibulae and bracelets. Figure 9 reproduces some silver pins with gold heads. Thirteen bracelets came to light, all ending in serpents' heads.

Bronze vases were commonly found,

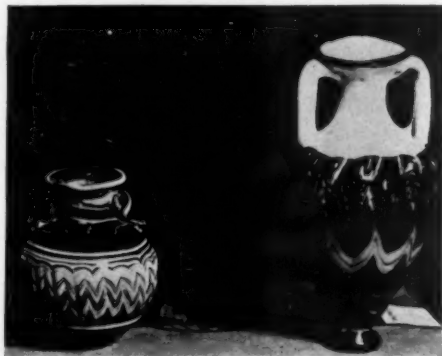


FIG. 12.—TREBENIShte. TWO SMALL POLYCHROME GLASS VASES

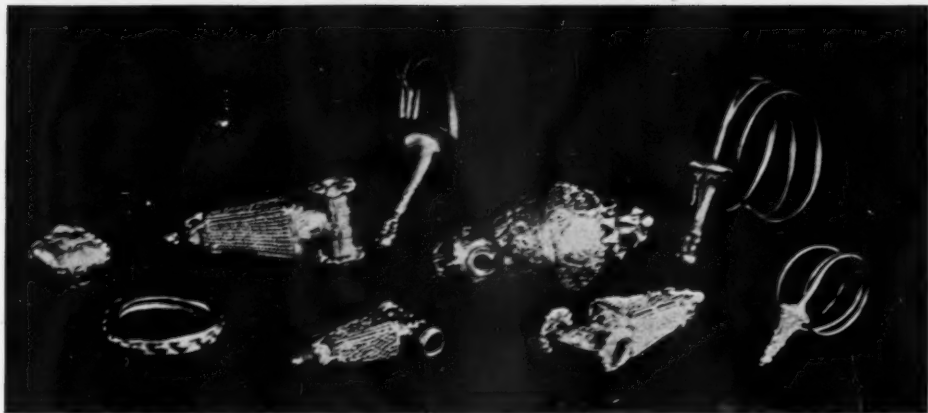


FIG. 8.—TREBENISHTE. EARRINGS OF GOLD, SOME WITH GRANULAR DECORATION



FIG. 9.—TREBENISHTE. SILVER PINS WITH GOLD HEADS



FIG. 10.—TREBENISHTE. BRONZE INCENSE BURNER

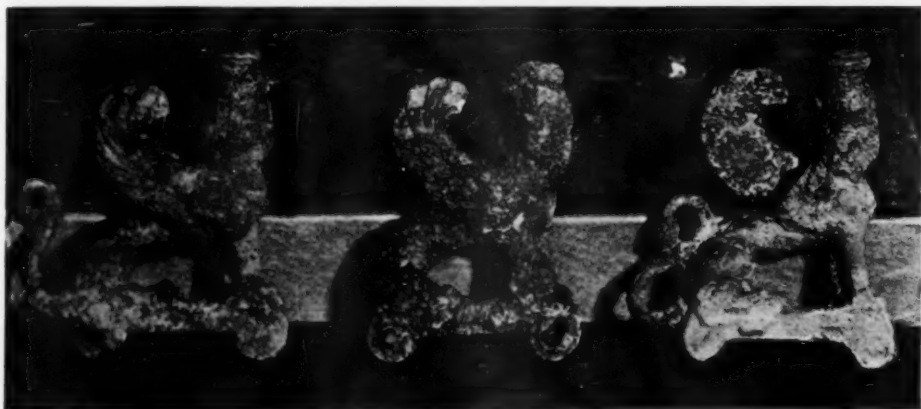


FIG. 11.—TREBENISHTE. SPHINXES ON A BRONZE VASE

THE ANTIQUITY OF THE GREEK ALPHABET

FOR some time I have been expecting to encounter in learned journal or epigraphical treatise the authoritative pronouncement that the Greek alphabet was adopted from the Phoenician about the year 700 B.C. I have been expecting such a revolutionary assertion because the evidence gathered by classical and Semitic scholars is now sufficiently abundant and is so thoroughly consistent and emphatic that no other inference is any longer permissible. Yet, though the conclusion is unavoidable, I cannot find that anyone has cared or ventured to assert it. And meanwhile the old illusion of the great antiquity of the Greek alphabet persists.

In the posthumous volume of the second edition of his *History of Antiquity*, perhaps the most authoritative of recent books in the field, Eduard Meyer¹ set the date of adoption of the Greek alphabet from the Phoenician at or about 900 B.C., a good two hundred years too soon. Kirchhoff, the great master of the epichoric forms, though expressing himself with the utmost caution, had apparently imagined an equally early period.² Gercke, in an article in *Hermes*,³ had argued for a slightly later date not long after 900 B.C. Even the iconoclastic Beloch, who normally resisted every tendency to archaize events, decided on "the tenth, or possibly even the ninth," century B.C.⁴ A year ago, in his lectures on "*Books and Readers in Ancient Greece*," Sir Frederick Kenyon assumed, almost as though argument were unnecessary, that the Greek alphabet must have existed at least as far back as the tenth century B.C. The various contributors to the *Cambridge Ancient History* agreed in their *terminus ante quem*, Bury suggesting "before 900 B.C.," Hogarth "well before, at latest, the tenth century," and Wade-Gerry more vaguely, but seemingly more remotely, "during the Dark Age" which succeeded the Dorian invasion.⁵ Szanto, in the article "Alphabet," in Pauly-Wissowa's *Realencyclopädie der klassischen Altertumswissenschaft*,—a work of incalculable prestige,—elected for the tenth century. Such an outstanding classic as Larfeld's *Griechische Epigraphik*,⁶ in the series of Müller's *Handbuch der klassischen Altertumswissenschaft*, claimed the eleventh century for the period of transmission; while the writer of the article "Alphabet" in the latest edition (1929) of the *Encyclopaedia Britannica* pushed the period even farther back into the second millennium with rather uncertain references to the Achaeans in the fifteenth-thirteenth centuries B.C. (and this in spite of the fact that it is abundantly clear that these "Achaeans" possessed a non-Phoenician script of their own, derived from the Cretan linear).⁷

The Semitic epigraphists apparently cherish similar opinions. Lidzbarski in his authoritative though no longer very up-to-date *Handbuch der nordsemitischen Epigraphik* (1898) set the transference of the alphabet from Phoenician to Greek in

¹ *Geschichte des Altertums*, 2d Ed., II, 2, 1931, pp. 71 ff.

² *Studien zur Geschichte des griechischen Alphabets*, 4th Ed., 1887.

³ xli, 1906, pp. 540 ff.

⁴ *Griechische Geschichte*, 2d Ed. I, 1, 1912, pp. 21-22, 228.

⁵ The respective references: II, 508; II, 546; III, 529.

⁶ 3d Ed., 1914, pp. 207-211.

⁷ My most recent reference: A. W. Persson, *Schrift und Sprache in Alt-Kreta*. Uppsala Universitets Årsskrift 1930, no. 3.

the second millennium;¹ and G. A. Cooke in his *Textbook of North-Semitic Inscriptions* (1903) accepted this decision without argument. I have not been able to familiarize myself with the widely scattered literature sufficiently to know how far this extreme verdict still reigns unchallenged among Semitic scholars today, but gather that present-day opinion would favor a period of transmission later than the tenth century.

In the face of such unanimity it is obviously imprudent for anyone who, like myself, possesses only a working knowledge of Greek epigraphy and almost no understanding of Semitic, to venture a conflicting opinion. Yet the specialists supply the facts and seem to agree on them; so that the problem is mainly one of inference. Besides, to restate the case is to give to those who better understand the subject an excellent opportunity to put finger on an error which is at present (I venture to assert) far from obvious to the general student. As it is wholly unclear in what portion of this complicated argument the errors lie concealed, it would be perverse to write a treatise, where a summary will serve. I have therefore tried in the present article to set forth the whole problem very briefly and schematically, hoping for comment and enlightenment from more authoritative sources. If terseness breeds dogma, the footnotes will correct this by adding a background as elaborate and discursive as the reader chooses to make it.

I

1. There can be no one today who doubts that the Greeks derived their alphabet from a Semitic source. The shapes of the letters are essentially the same in archaic Greek and early Phoenician writings. The sequence of the letters in the alphabet is essentially the same in Greek and in Hebrew; and as no one can point to any logic in the order of the letters of the Greek alphabet, such an agreement cannot be due to mere coincidence. Still more conclusively, the Greek names of the letters are not Greek words but direct borrowing of the Semitic names. "*Alpha, beta, gamma,*" mean nothing in Greek, whereas "*aleph, bet, gaml,*" evoked the conceptions "ox, house, camel," to any north-Semitic ear. Hence the two alphabets must be related, and priority belongs to the Semitic. This latter conclusion agrees with the archaeological observation that no classical Greek inscriptions earlier than the seventh century B.C. have ever been found, whereas there are now extant Semitic inscriptions in an essentially similar alphabet demonstrably deriving from the ninth, tenth, and even earlier centuries.

2. Neither Greek nor Semitic writing was so fixed and canonic that the forms of the letters remained unchanged through the centuries. Both alphabets passed through an evolution, introducing moderate changes in the Greek, very violent modifications in the later Semitic. Punic inscriptions from Carthage do not in the least resemble Greek writings of the Hellenistic Age. In this same late period the Greek-writing inhabitants of Cyprus could not have hoped to transliterate the inscriptions in the Phoenician towns of Citium and Idalion; whereas in the seventh century B.C. a literate Greek trader from Rhodes, visiting the island, would have recognized almost all the symbols in a Phoenician document. A modern classical

¹ "Da dies schon im zweiten Jahrtausend stattgefunden haben dürfte" (*op. cit.* p. 176).

student without Semitic training cannot make head or tail of Punic, Nabatean, or Palmyrene writings; yet he can read the name of Tiglath-Pileser in the eighth century Aramaic inscriptions of Senjirli and after very little assistance transliterate entire passages without error. He will, of course, understand almost nothing of what he has read, since he knows only the alphabet and not the language.

Obviously, the Greek alphabet must have branched off from the Semitic at the point where the chronologically contemporary resemblances are strongest, i.e. where the two sets of alphabets most nearly agree in the forms of the letters. Can this point be ascertained?

3. We cannot trace the Greek alphabet farther back than the first half of the seventh century B.C. Are we entitled none the less to assume that it must have existed at an earlier period? The assumption is currently made by all scholars; yet it is not immediately clear why we should suppose that there were writings in Greece very considerably earlier than any which have survived. We are learning not to make a corresponding assumption for the antiquity of monumental architecture, sculpture, vase-painting, bronze and clay figurines, jewelry, or coinage. Why should we make it for alphabetic writing?

Nevertheless, such an assumption is logically permissible and even necessary if

(a) The earliest surviving form of the Greek alphabet does not resemble the contemporary Semitic, or

(b) It more closely resembles a Semitic alphabet of an earlier period, or

(c) It could grow out of such an earlier alphabet more readily than it could grow out of the contemporary Semitic one. In any one of these three cases we should have to believe that the accidents of preservation and discovery have robbed us of Greek inscriptions which once must have existed and which were earlier than any now extant. On the contrary, the assumption is not permissible if

(d) The earliest surviving form of the Greek alphabet agrees more closely with contemporary Semitic writing than with any earlier Semitic writing,—especially if the subsequent history of the two alphabets shows rapid divergence.

The problem is thus reduced to an enquiry into objective fact, *viz.*, to which of the four preceding requirements do the archaeological-epigraphical facts conform? Actually, they conform exactly with (d): they do *not* conform with either (a) or (b) or (c). Proof follows.

4. The famous Moabite stone,¹ on which King Mesha of Moab recorded his exploits, can be dated rather closely to the year 850 B.C., thanks to the mention of the same Mesha, king of Moab, in the third chapter of the Second Book of Kings, where it is chronicled that King Jehoram of Israel, King Jehoshaphat of Judah, and the King of Edom made a joint expedition against him. As the stone also mentions 'Omri, king of Israel (885–874 B.C.) and his sons (reigning 873–841 B.C.), there can be no dispute about Mesha's identity or date.

The alphabet employed in this Moabite inscription is very generally treated as the nearest immediate ancestor or prototype of the earliest Greek inscriptions. But when actually confronted with the archaic Greek local alphabets it is unsatisfactory and divergent in several respects, as may be detected in the fragment of it here

¹ Lidzbarski, *Handbuch*, Pl. I.

reproduced as Figure 1. Notably, the "A"¹ lies horizontally instead of vertically, with an extremely long upright stroke; the "B" has a form unknown to Greece; the "Z" is low and squat with a slanting bar; the "H" has two instead of three bars, and these are slanting; the "I" has a stroke too many (the primitive Greek form being a zigzag of only three strokes); the "K" is almost unrecognizable, resembling a three-tined fork with a tail; the "L" is curvilinear instead of angular; the "M" and the "N" have the tail-stroke curved instead of straight; the "P" is hooked instead of



FIG. 1.—EXCERPT FROM THE MESHA STONE (AFTER LIDZBARSKI)

bent; the "S" (*shin*) is upside down; the "T" is an X; and the "V" (*waw*) is curvilinear at the top.²

This is a formidable list of discrepancies. We must see whether forms more nearly approximating the archaic Greek cannot be found elsewhere in Semitic, and if so, whether they belong to a period earlier or later than the Mesha stone.

5. Earlier material exists in the dedicatory inscriptions of Abiba'al and Eliba'al, kings of the Phoenician town of Byblos, found on the site, carved on statues of Shoshonk I and Osorkon I of Egypt, and dating from about 930–920 B.C. or nearly a century earlier than the Mesha stone. They were published and discussed by Dussaud in the French journal *Syria*,³ from which Figure 2 is taken. We may take as typical, and authoritative, Eduard Meyer's verdict⁴ that "their letter-forms in general agree exactly with those of Mesha, except that four letters (*aleph*, *chet*, *kaph*, *mem*) show somewhat older shapes." Of these, in truth, the "K" and "M"

¹ For simplicity, I use the modern equivalent letter.

² V, 1924, pp. 145 ff.; VI, 1925, pp. 101 ff.

³ Cf. the third column of Fig. 2.

⁴ *Op. cit.* II, 2, p. 72.

(Fig. 2, Col. 2), are so different that it would be impossible to maintain that the archaic Greek forms of these letters were derived from them.

A still earlier inscription occurs on the sarcophagus of Ahiram,¹ king of Byblos about 1000 B.C. or possibly considerably earlier; but here, (Fig. 2, Col. 1), many of the forms are so archaic as to be unrecognizable from the Hellenic standpoint. Unaccountably, a few of the forms are nearer the Greek than those on the Mesha stone; but when the balance is struck, the general similarity to Greek is vastly more remote. Hence, to seek earlier than 850 B.C. is to fare worse. On this I believe the majority of Semitic scholars are now in accord.

BYBLOS 10th c. B.C.	BYBLOS 10th c. B.C.	MESHA 10th c. B.C.
κ κ	κ	τ
θ	θ	θ
1	1	1
Δ	Δ	Δ
3	3	3
Υ Υ	Υ	Υ
Ι	Ι	Ι
Β Β	Β	Β
Θ	Θ	Θ
2	2	2
Λ Λ	Λ	Λ
Σ Σ	Σ	Σ
Ζ	Ζ	Ζ
Φ	Φ	Φ
Ο	Ο	Ο
7	7	7
9	9	9
ω	ω	ω
+ +	+	+

FIG. 2.—EARLY
SEMITIC ALPHABETS

6. On the other hand there is a Phoenician inscription which can be dated almost to the exact year and belongs rather more than a century after the Mesha stone. Because it was for a long time wrongly ascribed to the tenth century B.C., its correct chronology demands attention. The inscription occurs on the pieces of a bronze bowl found on the south-coast hills of Cyprus and now preserved in the Bibliothèque Nationale at Paris. The chief part of the text may be translated, "The ruler of New-Town, vassal of Hiram the king of the Sidonians, presented this to Ba'al of Lebanon." This "New-Town," which therefore bears the same name as Carthage (i.e. *Qarthadasht*), is generally identified with the Phoenician town of Citium in Cyprus; but the exact location is probably irrelevant. It is the mention of the Phoenician king Hiram which is all-important. It was at first very naturally supposed that he was the "Hiram, king of Tyre," who reigned from 969 to 936 B.C. and is mentioned in the First Book of Kings as a friend of David and a commercial ally of Solomon, to whom he sent "cedar trees and fir trees according to all his desire" for his great new temple. But the Hiram on the bronze bowl is not called king of Tyre, but "King of the Sidonians," i.e. of all the Phoenicians, and hence must have lived at a time after Tyre had become the dominant city of Phoenicia with Sidon subordinate to it (which was not the case under Hiram I). Now, there is another Hiram mentioned in Assyrian records as paying tribute in 738 B.C. to Tiglath-Pileser III; and at Senjirli in North Syria were found Aramaic inscriptions which make mention of this same Tiglath-Pileser and are written in an alphabet almost identical with that of the Cyprus bowl (whereas the inscriptions contemporary with the Biblical Hiram I, e.g. those from Byblos just referred to, are very different). The conclusion that the Hiram of the Cyprus bowl is the king of Tyre who paid tribute to Tiglath-Pileser in 738 B.C. seems to have won universal acceptance;² and I do not see how the double evidence of history and epigraphy on which it rests could be controverted. The date of the inscription on the Cyprus bowl is therefore fixed within very narrow limits.

¹ *Syria* V, 1924, pp. 135-157. Here "Z," "H," and "T" are nearer the Greek forms, while "D," "N," "P," and "R" are less close, and "A," "I," "K" and "M" are so remote as to be unrecognizable. Ed. Meyer defended the date ca. 1000 B.C. Professional epigraphists seem to prefer the thirteenth century B.C.

² Ed. Meyer, *Gesch. d. Alt.*, 2, II, 2, p. 126.

Compared with the Mesha stone, the alphabet used on the Cyprus bowl (Fig. 3) shows vastly greater similarity to the archaic Greek. "A" still lies on its side, but the cross-stroke is now short, as in the Greek equivalent; "B" remains as on the Mesha stone; "Z" now exactly resembles the Greek *zeta*; "H" has now three strokes (in one instance, four) as in archaic Greek; "I" remains as on the Mesha stone; "K" has now the correct archaic Greek form; so have also "L," "M," and "N"; "P" is accidentally absent and so cannot be judged; "S" (*shin*) is still inverted; "T" is still a cross, but now stands erect instead of diagonally; "V" (*waw*) does not occur. Thus of the 13 discrepant forms noted on the Mesha stone, the Cyprus bowl shows

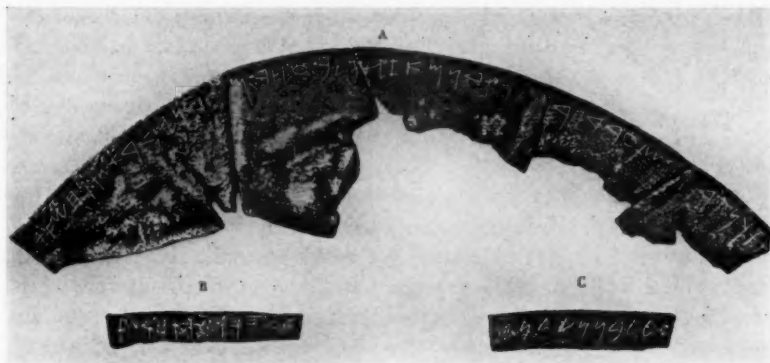


FIG. 3.—THE CYPRUS BOWL (FROM LIDZBARSKI, *Handbuch*)

8 which are closer to the Greek, none which are less close, 3 unchanged, while the remaining 2 do not happen to occur.

These statistics are impressive; and actually, the general resemblance to Greek archaic writing is so great that scarcely anyone who has written about the Cyprus bowl has failed to emphasize it. Thus Cooke wrote,¹ "The old Greek alphabet belongs to the same type; in particular, the correspondence between ("Z") and ("T") and the same letters in Old Greek is noticeable." Lidzbarski² judged that on account of the forms of these two letters "one is inclined to set the inscription in a period not far from that in which the Greeks borrowed their alphabet"; but as he arbitrarily believed that this event took place before the year 1000 B.C., he wrongly ascribed greater antiquity to the bowl than to the Mesha stone. Cooke³ saw rightly that "internal evidence, however, favours a later age, that of the Senjirli inscriptions, the middle of the eighth century B.C.; and the character of the writing agrees with this." But he apparently lacked the conviction to draw the obvious conclusion that the Greek alphabet should in that case have been derived from the Semitic of this period and hence *at* this period, *viz.*, the middle of the eighth century B.C.

7. Phoenician inscriptions from later times show an ever remoter connection with Greek letter-forms. Divergence sets in rapidly and violently at some time just

¹ *Textbook of North-Semitic Inscriptions*, p. 52.

² *Handbuch der nordsemitischen Epigraphik*, p. 176.

³ *Loc. cit.*

before the sixth century. When the Greek mercenaries of the Egyptian king Psammetichos scratched their names on the colossi of Abu-Simbel in Nubia in or about 589 B.C.,¹ a Phoenician in this foreign legion added his contribution in his own native script (Fig. 4). Crucial are the forms for "M" (at the left of the first line) and "S" (the second letter from the right in either line). From neither of these

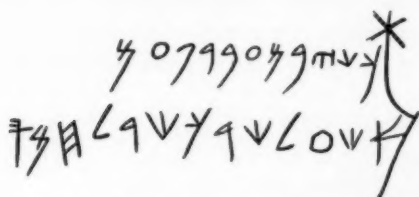


FIG. 4.—PHOENICIAN INSCRIPTION FROM
ABU-SIMBEL

could the Greek forms for these letters possibly have been derived; whereas the "M" on the Cyprus bowl is identical with the archaic Greek and the "S" on the bowl had only to be turned sideways to produce a Greek *sigma* or inverted for the Greek *san*. Semitic epigraphists treat these two letters as important indices of date. Thus Lidzbarski says, "An inscription in which "M" and "S" have the zigzag form, unless there are very weighty grounds against it, should be assigned to the period earlier than the sixth century."² Conversely, the presence of the newer forms, as in the Abu-Simbel graffito, should place the date at least as late as the seventh century B.C. We do not really need this *terminus ante quem* for our argument, since we possess Greek inscriptions which antedate this change. But the new trident form for "S" is identical with the archaic Greek letter which signified *chi* in the "west-Greek" and *psi* in the "east-Greek" alphabet; and this coincidence may be significant.

8. Lest it be supposed that the whole case rests on a single document, the Cyprus bowl, we must turn to the Aramaic inscriptions of Senjirli in North Syria, the ancient petty principality of Shamal. Here there are extensive inscriptions from the eighth century B.C. written in an alphabet so closely akin to the archaic Greek that any Greek epigraphist, after a moment's instruction in the few differences, can transliterate them. The inscription here reproduced as Figure 5 is dated by its mention of Tiglath-Pileser in the top line; and this monarch is identified as the third of the name by a cross-reference in Assyrian records of 738 and 734 B.C. to Panammu, king of Shamal. Accordingly, when the inscription (from which Figure 5 shows a different portion) begins, "I am Bar-rekub, son of Panammu, king of Shamal, servant of Tiglath-Pileser, lord of the four parts of the earth," there can be no question of its period. Inspection reveals that "G, E, K, L, M, N, O," and "R" are practically indistinguishable from early Greek forms, and that "A, B, I, S," and "T" are identical with the Cyprus bowl. *Teth*, *samech*, and *koph* show forms deviating from the Greek; but on the slightly earlier inscription to the god Hadad, also from Senjirli, these letters are found in the form in which they occur on the Cyprus bowl.

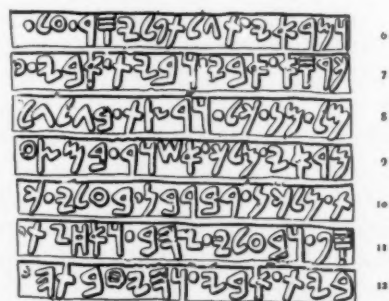


FIG. 5.—ARAMAIC INSCRIPTION CONTEMPORARY WITH THE CYPRUS BOWL

¹ For the date and the Greek inscriptions see below, p. 25.

² *Op. cit.* p. 177.

In addition, there is a series of Aramaic inscriptions from a small village called Nerab, near Aleppo, on finely carved bas-reliefs representing local priests in Assyrian style. These are thought to derive from the latter half of the seventh century B.C. and are written in an alphabet only slightly more advanced than those of Senjirli.

So great is the similarity between late eighth century Aramaic and certain archaic Greek inscriptions such as those of Thera, that one might be tempted into believing that Aramaic rather than Phoenician was the parent of Greek writing. But this suggestion, though it has been seriously advanced, does not improve with closer study.

There is an inscription from Nora in Sardinia whose importance in this regard has not been generally recognized. Since no early Phoenician objects have ever been found in Sardinia, the Nora inscription should derive from the Carthaginian colonization of the island at the end of the seventh century¹ or, if really Phoenician rather than early Punic, from the time of Phoenician penetration into Italian waters, which cannot be earlier than the end of the eighth century and may well be later.² It is usually held not to be Punic; but I doubt whether we can be certain of distinguishing the earliest Carthaginian writing from its immediate Phoenician ancestor. In any case, it has no claim to be earlier than the seventh century;³ yet some of its letter-forms are, if anything, even more like archaic Greek than those of the Cyprus bowl. We are justified in assuming that it was writings like this from Nora which the Greeks first saw and copied when they learned their alphabet; but we are not justified in assuming that such models could have existed much earlier than 700 B.C.

9. From this evidence we can only conclude that (a) the earliest surviving form of the Greek alphabet (ca. 680 B.C.) closely resembles the immediately preceding Semitic (Phoenician and Aramaic) of the close of the eighth century; (b) it resembles this much more exactly than it resembles the Semitic of any other period, earlier or later; and (c) in consequence, the date of derivation of the Greek alphabet must fairly closely approximate the year 700 B.C.

II

1. The preceding argument is so unambiguous and so amenable to epigraphical and chronological verification that there must exist weighty counter-evidence, suppressed or overlooked by the present writer. In that case, this evidence must find mention in the pages of those who have written on the Greek alphabet.⁴ The common belief in its greater antiquity must somewhere find support in solid reasons. What reasons have been adduced?

¹ "Sardinia . . . was occupied abruptly and vigorously early in the sixth or perhaps at the end of the seventh century." J. L. Myres in *Cambridge Ancient History*, III, 643.

² "Was Sardinien angeht, so fehlt bis jetzt jeder monumentale Beweis einer phoenikischen Kolonisation oder phoenikischen Handels in vorkarthagischer Zeit, d.h. vor dem vii. Jahrhundert." Beloch, *Griechische Geschichte*, I, 2, p. 250.

³ On epigraphical grounds Lidzbarski (*op. cit.* pp. 176-7) dated it after the Cyprus bowl. Cooke set it in the sixth century. Dussaud (*Syria*, V, 147) unaccountably attributed it to the ninth century, a manifest impossibility historically and epigraphically (because of the late forms of the "K, M, N," and "P").

Ed. Meyer, in dating the invention of the Greek alphabet to 900 B.C., says only:¹ "In the inscription of King Mesha of Moab ca. 850 B.C. the letter-forms agree almost completely with those in which the Greeks adopted the alphabet; this adoption accordingly took place around 900 B.C., and one may assume that the Phoenician towns at that time wrote in this manner, which survived in remote Moab in 850." This conclusion is confirmed (he says further) by the inscriptions of Abiba'al and Eliba'al, which date from 930-920 and show rather more archaic forms.

Beloch, whose whole mentality inclined him to a late date, wrote at a time when the Cyprus bowl was still believed to refer to Hiram I (who reigned 969-936 B.C.), and hence was obliged to believe that the transmission took place at that time.

Gerceke entertained the same belief about the date of the Cyprus bowl and wrote at a period when the more archaic inscriptions from Thera and Crete were erroneously ascribed to the eighth century B.C. He contented himself, however, with the statement that the Greek alphabet must antedate the year 850 B.C. because the neighboring Carian alphabet was manifestly derived from the Greek and yet (he thought) could be shown to have existed as far back as that date.

Kirchhoff asserted that the so-called "non-Phoenician signs" in the Greek alphabet must have been in existence in the eighth century B.C.² and apparently believed that a considerable period of growth and development anterior to their invention must be postulated for the rest of the alphabet. With the caution naturally resulting from his great epigraphical knowledge, he was very hesitant on offering any exact chronology, and yet too inured to the current faith in the great antiquity of the Greek alphabet to break with accepted tradition.

Bury, in the *Cambridge Ancient History* (II, 508), expressed the opinion that "Though the use of alphabetic writing on stone or metal cannot be traced in Greek lands farther back than the seventh century, it seems to be probable that the Greek alphabet was constructed at a much earlier period (before 900 B.C.) and that, long before it was used for monumental purposes, it was employed in the ordinary business of life."

Kenyon suggests that early Greek writing has left no surviving specimens because it was consigned to perishable parchment and papyrus; but there must have been writing in the ninth century at any rate, because Homer could not have been composed except on paper (quite apart from any oral methods of transmission) and Homer cannot be later than the ninth century. The Greek alphabet must therefore have enjoyed a very considerable antiquity.

Larfeld maintained that the Phoenician contact with the Aegean took place between the sixteenth and eleventh centuries B.C., that the adoption of the Greek alphabet was later than the Dorian invasion but earlier than the Ionic migration (eleventh century?) because these later migrants brought their alphabets with them to the Asia Minor coast. Further, the Phrygian alphabet is akin to the Boeotian and hence was transmitted by the Aeolic emigrants from Boeotia to the Troad. Similarly, the Lycian alphabet is akin to the Peloponnesian Doric and hence was

¹ The references to these authorities will be found already listed in the footnotes to p. 8.

² *Op. cit.*, p. 172. For the implied antiquity of the Greek alphabet, see p. 60.

transmitted through the Doric colonists in southwest Asia Minor before they became Ionicized. The only date which will fit all this evidence is the eleventh century.

2. Among all these opinions the only concrete arguments which are not controverted by the direct evidence of the Phoenician and Aramaic inscriptions themselves, are to be found in Gercke and Larfeld. But here we may justly challenge the facts which are adduced.

To the latter we may reply with the full confidence of modern archaeological knowledge that there is no evidence for any Phoenician contact with the Aegean in the second millennium. Besides, Greece was not illiterate at that time, but possessed its own method of writing, inherited from Crete and utterly unrelated with Semitic. We do not know when the knowledge of this Achaean script died out; but Persson has found it in use as late as 1200 B.C. and it may well have lasted longer in isolated communities other than Cyprus. The Dorian invaders apparently failed to acquire a knowledge of this writing and so remained illiterate. Under the challenge of archaeological investigation the "*mirage phénicien*" has everywhere faded. Keramopoulos has dug the Kadmeion in Thebes (the stronghold of the most stubborn connection of the alphabet with early Phoenician days through the legendary Kadmos) and found a late-Helladic palace without a vestige of Phoenician. No Phoenician objects have been found anywhere else in the Aegean basin in an environment earlier than the eighth century. In the Etruscan tombs the importations ascribable to Semitic trade-relations are often Punic rather than Phoenician or, when undoubtedly Phoenician, again not older than the end of the eighth century. In Sardinia the situation is still less encouraging for early Phoenician contact. In Spain, Bosch-Gimpera reviewing the available evidence with admirable grasp and clarity has found¹ that Phoenician trade with Spain belongs in the eighth and seventh centuries, not to any earlier period. The oldest "Phoenician" find in the Spanish peninsula is an imported scarab of Psammetichos I and hence of the seventh century. Asarhaddon (680-669 B.C.) as conqueror of the Phoenician cities, lists Tarshishi among the vassals of Assyria, and thus may be making reference to Tartessos in Spain;² but all earlier Oriental references to this town rest on misinterpretation and are most improbable, in Bosch's opinion.

The situation is clearest and most striking in Cyprus, close to the Phoenician homeland. It is certain that the Phoenicians were not strongly entrenched in this island until comparatively late times.³ After the Dorian invasion of the Peloponnese about the year 1200 B.C., Achaean Greeks migrated to Cyprus, bringing with them their language and script, from which were descended the dialect akin to Arcadian and the Cypriote syllabary of historic times.⁴ From that time on, Cyprus

¹ *Klio* XXII, 1929, pp. 345-368.

² Even this is open to dispute, as the inscription refers to the sea-kings of Yatna (Cyprus), Yavan (Ionia), and Tarshish, which may therefore be much nearer Palestine. Semitic tradition badly confused Tarsos and Tartessos.

³ Ed. Meyer, *Gesch. d. Alt.*, II, 2, 86 brings them to Cyprus "etwa im 11. Jahrhundert."

⁴ I do not see how anyone, reviewing Sundwall's comparative table in *Klio* XXII, 1929, p. 231, can doubt that the script on the late-Helladic jars of Tiryns and Thebes is essentially the same as the linear script of Crete; nor, reviewing Persson's comparative table in *Schrift und Sprache in Alt-Kreta* can doubt that the Cypriote syllabary is directly descended from this same tradition. Whether Persson has succeeded in reading the "Mycenaean" inscriptions on the basis of the Cypriote syllabary, is a question apart.

remained predominantly a Greek island. Gjerstad's *Studies on Prehistoric Cyprus* draw a picture of ever-increasing contact with Syria, Palestine and Egypt between 2000 and 1200 B.C.; but the trade is carried in native Cypriote ships and there is no evidence for Phoenician activity or colonization. During the latter part of this period, Cypriote contact with the Aegean is established. "Mycenaean pottery found its way into Cyprus in unbelievably great quantities. It is entirely Helladic, and not Minoan." During the two following centuries, in the crucial years between 1200 and 1000 B.C., "we get quite another picture." The island became isolated from both Orient and Aegean, and lived its own life, a hybridized Achaean-Cypriote existence. Had there been a great Phoenician sea-trade and thalassocracy at the close of the second millennium, it must have left some trace on Cyprus. When the Egyptian emissary Wen-amon came to the island about 1070 B.C. Cyprus was not Phoenician nor even in relations with Byblos, the north-Phoenician capital.¹ Not until the eighth century does the awakening come, with a great onset of oriental, predominantly Assyrian, influence, presumably carried by the Phoenician vassals (and vessels) tributary to the Assyrian conquerors. These Phoenicians, establishing themselves chiefly in Citium and Lapethos, brought their alphabet to Cyprus too late to convert the Greeks there, who for centuries (as we have indicated) had been practising the syllabic script which they had brought from their Greek mainland home. But when this Phoenician wave, moving onward, reached the Aegean (as it demonstrably reached Rhodes in the course of the eighth century²) at a time when Doric and Ionian invasions had long ago obliterated all memory and use of the old Achaean-Minoan script, the illiterate Greeks eagerly welcomed the alphabet and adapted it to their own tongue. It is therefore wholly possible that the current belief that the Phoenicians transmitted their alphabet to the Greeks at an earlier period rests rather generally on a lack of familiarity with the history of the eastern Mediterranean during the period in question. Greek tradition seems to ascribe a very considerable antiquity to the Phoenician trade-penetration of their world: we have accepted that apparent tradition uncritically and blindly. On examination, it is unfounded.

But Larfeld further asserted that the Ionians and Dorians brought their alphabets with them when they migrated to the Asia Minor coast, basing this belief on the phenomenon that their non-Greek neighbors in Asia Minor,—notably the Phrygians and the Lycians,—derived their alphabets from the Greek and yet not from the Ionic variant. The observation may be exact; but the inference is false.

There is, of course, no direct evidence to show whether or not the Doric and Ionic settlers of the Asia Minor coast brought their alphabet with them, since they are held to have arrived before the year 1000 B.C. and there are no extant inscriptions earlier than the seventh century. But the indirect evidence is equally valueless. The Lycian alphabet³ is essentially identical with that of Rhodes before it became Ionicized, except that certain supplementary signs have been borrowed from the Cypriote syllabary. It is a mistake to look on the Abu-Simbel inscription of the

¹ Ed. Meyer, *Gesch. d. Alt.*, II, 2, p. 17.

² Poulsen, *Der Orient und die frühgriechische Kunst*, ch. vii and xi.

³ For these "Hellenizing alphabets" see Ebert's *Reallexikon der Vorgeschichte*, XI, p. 335.

mercenary from Ialysos (Fig. 6 c) as the earliest example of Rhodian, since it is already strongly Ionicized, whereas an alphabet of a much more characteristic "west-Greek" form occurs on earlier Rhodian vases,¹ an alphabet admirably fitted to be the inspiration of the Lycian. It may further be relevant that Phaselis, at the extreme east of Lycia, was settled by Rhodes at the beginning of the seventh century and would therefore have employed this early Rhodian writing. There is accordingly no apparent objection to a seventh century origin for the Lycian script. (The actually surviving Lycian inscriptions are, however, much later.)

The Phrygian inscriptions (on the "Tomb of Midas" and other rock façades²) show an alphabet of common archaic (sixth century) Greek type. The decorative elements on these tombs contain late-Assyrian or (in my opinion) Achaemenid Persian details which date them in the sixth or even fifth century B.C. It is therefore difficult to see how they can be used to throw light on the antiquity of the Greek alphabet.

Gercke appealed to the supposed antiquity of the Carian alphabet to prove the even greater antiquity of the Greek from which it was derived. The Carian forms for "C, F, I, L, P, S, U," show that the prototype was Greek, not Phoenician, while the sickle "C" and the use of the trident *chi* for "K" show that a "west-Greek" alphabet of the Rhodian type was responsible. But the forms are no more primitive than those in use in Rhodes during the seventh century; and the whole argument from Carian is so manifestly *ab ignotiore* that there is little prospect of help in that quarter.

The appeal to Lycian and Carian merely shows the importance of the Rhodian epichoric alphabet in the seventh century and helps to confirm the conclusion which we shall reach later, that the first Greek alphabet may have been Rhodian.

3. For the sake of completeness we must glance at the Etruscan as one more early alphabet derived patently from a Greek source. The result will be the same. There is no reason for supposing that any of the Etruscan inscriptions are earlier than the seventh century or that they reflect a Greek alphabet of an essentially earlier form than those which are known to us from our extant material. If Beloch concludes³ that the Etruscan alphabet was derived from Cumae "*wohl schon um 700, oder doch wenig später*," it is not a serious objection that it must have taken a certain number of years for the Greek prototype to reach Cumae from the southwest coast of Asia Minor, where I imagine the Phoenician transmission to have taken place.⁴ Karo has argued very brilliantly⁵ that the Bocchoris Tomb in Corneto, the Regolini-Galassi Tomb, and the Tomba del Duce in Vetulonia date from the first quarter of the seventh century; and it is in this environment that Etruscan inscrip-

¹ Kirchhoff, *op. cit.* p. 49. *Ath. Mitth.* XVI, 1891, pp. 107 ff.

² Brandenburg, *Abh. bayer. Akad.* XXIII, 1906, p. 682; Ebert, *Reallexikon der Vorgeschichte* s. v. *Phryger*; Hirt, *Indogermaner*, I, 133. For convenient illustrations, Perrot-Chipiez, *Histoire de l'Art*, V.

³ *Griechische Geschichte*, I, 1, 244.

⁴ The occurrence of a "Z" and a "T" in Etruscan closer to the Phoenician forms than any extant in our collection of Greek inscriptions shows that the transmission from Greek to Etruscan must have taken place in the infancy of the Greek alphabet, in other words only very shortly after 700 B.C.

⁵ *Ath. Mitth.*, 1920, pp. 124 ff.

tions begin to appear.¹ In other words, writing commences in Etruria at about the same time that its occurrence can be established in Greece. This would be a strange coincidence if the Greeks had known how to write for several centuries (even if we made every allowance for the fact that the Greeks were not in regular contact with the Etruscans before the eighth century); while it would be precisely what we should expect of so exciting and marvellous an accomplishment in Greek hands if the art had only lately been acquired.

4. Yet it is very generally believed and maintained that behind the alphabets of the surviving archaic Greek inscriptions there must lie a considerable period of development and evolution. Evolution out of what and into what?

Not an evolution in the actual forms of the letters, since almost every letter in the Phoenician inscription on the Cyprus bowl can be exactly paralleled somewhere in archaic Greek. The discrepancies in "H" and "T" and the inversion of the "S" are unimportant and involve no intermediate stages and hence no period of evolution. The change of the *yod* into the archaic "broken" *iota* is scarcely more serious. The only really discrepant letter is "B," which in the Semitic prototype so closely resembled "R" that the Greeks manifestly found difficulty in distinguishing and accepting it. There is a whole branch of early Greek local alphabets which for this reason inherited no "B" at all. Some of these (Thera, Corinth, Megara) helped themselves out logically,—or rather, phonologically,—by modifying the *pi* into a new and special letter; several of the nearby Cycladic islands (Naxos, Delos, Paros, Keos) borrowed an unfamiliar letter, the "western" "C," from a neighboring Euboean or Corinthian alphabet and arbitrarily used this for "B"; while Melos invented or adopted an unusual form, which recurs in Megarian and Corinthian colonies and hence may for a time have been current in Megara and Corinth also. Ionia accepted the Semitic prototype, but improved it in the interest of legibility by bending the lower curve back to rejoin the main stroke, so that "R" and "B" could no longer be confused.² All of these various local devices and changes do not necessarily imply a period greater than a single generation. They might have taken a long while to accomplish, or they might have been the immediate accompaniment of the spread of the art of writing, since these modifications of the Semitic forms are all single acts and not the outcome of a process involving successive evolutionary stages. The knowledge of writing must have spread with extreme rapidity along the chief trade routes. To maintain that it must have taken centuries to propagate itself is to misestimate the mentality of the seventh century Greek.

5. Similarly it seems to be very generally assumed that a considerable period of time must have elapsed for that brilliantly Greek creation of the vowels, by which semivocalic "J" and "W" were turned into "I" and "U," and the unnecessary *aleph*, *he*, and *'ain* of the Semitic prototype became "A, E, O." But Nilsson has aptly shown³ that the temper of the Greek language made the creation of vowels out

¹ But the chronology depends on *post quem* data; and as the letters of these particular inscriptions (Montelius, *La Civilisation Primitive en Italie*, II, pl. 186, 10; pl. 339, 1, 3, 9), do not have an exceptionally archaic appearance, it is possible that the earliest Etruscan writing should be dated somewhat later.

² *Uebernahme und Entwicklung des Alphabets durch die Griechen*, pp. 10-12.

of just these Semitic sounds unavoidable if the Greek alphabet was to function at all usefully; and even Larfeld¹ admitted the immediateness of the act and dated it contemporaneously with the adoption of the alphabet. Obviously it is no more difficult to imagine that this event took place in 700 than in 900 or 1000 B.C. To push back the date of its occurrence does not make it easier to understand or more likely to happen.

6. But in addition to taking over the Semitic letters, the Greeks found it necessary to add several symbols for sounds not included in the Semitic prototype. These "non-Phoenician letters" were appended to the end of the Semitic alphabetic sequence and thereby proclaim their posteriority in time also. No problem connected with the Greek alphabet has occasioned so much speculation and discussion, —futilely perhaps, since the very multiplicity of the suggestions indicates the impossibility of any certain solution. Yet there is one fact, not emphasized by all investigators, which to me, at least, seems the crucially important one, *viz.*, that all the so-called "non-Phoenician" symbols actually occur in Semitic inscriptions as variants of the standard forms. T is a variant of *waw* on old Hebrew seals and in neo-Punic; Φ in its commonest archaic Greek form is a variant of *teth* in the seventh century Aramaic inscriptions of Nerab, while its other (and perhaps more ancient) form with the vertical stroke prolonged, occurs as a variant of *koph* in the Nerab inscriptions and elsewhere in early Aramaic. X in both its variants, as a vertical and a diagonal cross, is the commonest sign for *taw* in Phoenician and Aramaic from the earliest times to the sixth century. Ψ in its most frequent early-archaic form without the prolongation of the central stroke, is a variant of *shin* (cf. Fig. 4) during the seventh and early sixth centuries.² When one considers the numberless thousands of signs or characters which can be invented out of two, three, and four straight or curved strokes, it is little short of blindness to refuse to see any significance in this observation. But when we enquire at what period these Semitic variants, all of which agree exactly with the earliest forms of the "non-Phoenician" letters in Greek, were in current use at one and the same moment, the Semitic epigraphist's answer seems to be unequivocally the seventh century B.C. Hence this ought to be the period of their adoption.³

Nilsson (like Isaac Taylor before him) objected vigorously to any explanation which ignores phonetic values. He himself put very clearly the case for believing that the main body of the alphabet must have been derived *orally* from the Phoenicians, since the Greeks learned the proper names of the letters in proper sequence, and this would be the traditional and only practical method for imparting the

¹ *Griechische Epigraphik*, p. 211: "Unmittelbar bei der Einführung des semitischen Alphabets musste daher durch Umprägung nicht verwendbarer Buchstaben Abhilfe für den Mangel an Vokalzeichen geschaffen werden."

² Lidzbarski, *Ephemeris für semitische Epigraphik*, II, 7, 1903, p. 121, was apparently the first to make these observations, but without drawing any chronological inference. Larfeld (*op. cit.*, p. 238) gave the same generic type of explanation for the "non-Phoenician" letters, but derived *psi* from Semitic *waw*, for which I see no possible warrant.

³ The only source of difficulty is our present ignorance whether the trident *shin* existed in Semitic earlier than the comparable symbol in Greek. The absence of Phoenician inscriptions from the early seventh century makes it necessary to wait for future finds to confirm or disprove this part of the theory.

sound-values of the symbols, which are "acrophonically" enshrined as the initial element of the name in every case. But the situation is different for the "non-Phoenician" symbols for which there were no phonetic counterparts in Semitic. Hence a Greek who had access to contemporary specimens of Phoenician writing (precisely because he was looking for new symbols and not practising comparative phonetics) might have helped himself to any available signs, even as the Cycladic islanders, when they needed a symbol for the missing B-sound, adopted the distinctively different "C" from their neighbors, regardless of its correct phonetic value.

That these "non-Phoenician" letters were a fairly late creation is indicated by the fact that they are still missing in the sixth century in some of the more remote of the local Greek alphabets. Thus they do not exist in the earliest inscriptions of Crete, Thera, and Melos, even though none of these probably antedate the sixth century.¹ On the other hand, they were promptly transmitted to the great mercantile cities whose trade-routes led to southwest Asia Minor, notably to Chalkis and Corinth which dealt with Samos and Rhodes, to Eretria, Megara, and Athens which dealt with Miletos, and to Delos (and thence its immediate neighbors) because of religious connections.

As was first pointed out by Drerup,² the various groups into which the Greek local alphabets fall when arranged purely on the criteria of their distinctive letter-forms agree precisely with the trade-relations between the chief trading centers during the seventh century. Had the phenomena of the creation of the "non-Phoenician" letters and the dissemination of the alphabetic forms taken place in the remote past, the changing conditions apparent in the sixth century epichoric alphabets would be almost inexplicable. Whereas if the "non-Phoenician" letters are an addition to a late eighth century creation, the conditions which we find are precisely what we might expect.

7. Finally, the *eta* and *omega* are all but created under our very eyes. The Ionian Greeks apparently used neither the V-sound nor the aspirate 'h' in their dialect, and hence could convert the Phoenician symbol for the first into a "U" and for the second into a long "E." The other Greeks, when they needed to write a "V" had to invent a new symbol, since they too had accepted the "U"; yet when they wished to write an aspirate, they employed the Semitic "H" in its proper function³ and only gradually during the sixth century succumbed to the Ionic tradition of using this "H" for the long E-vowel. In the Abu-Simbel inscription of ca. 590 B.C. the Rhodian mercenary from Ialysos is familiar with both practices and uses the same symbol in the Ionic manner as a vowel and in the earlier Rhodian manner as an aspirate (Fig. 6 c). He also uses a single symbol both in the Rhodian

¹ For the date of the Gortyn inscriptions, cf. pp. 24 and 26; for Thera, cf. p. 26. The sixth century date is not disputed for Melian inscriptions which still use p-h and k-h in place of *phi* and *chi*. With the *h* not written in Ionia and the "H" symbol diverted for the long E-vowel, the Ionic alphabet had no means of writing p-h and k-h and hence had to invent special signs for these combinations. *phi* and *chi* therefore can scarcely be older than the introduction of *eta* in Ionia.

² *Musée Belge*, V, 1901, pp. 142 ff.

³ Herein lies a strong indication that the Ionians were not the original Greek recipients of the alphabet.

manner as an "L" and the Ionic tradition as a "G." But the most striking evidence of a Rhodian tradition independent of the Ionic is to be found in the Phoenician trident *shin* which the Rhodians employed for *chi* and the Ionians for *psi*. This distinction perpetuated itself, the cities in close trade relations with Ionia accepting the Ionian usage, while Chalkis, which dealt intimately with Rhodes, accepted the Rhodian usage and spread this around through Euboea and Phokis as well as westward to her Italian colonies, just as Rhodes herself transmitted the usage to her own Sicilian colony of Gela, and Gela in turn transmitted it to Akragas at a time when Rhodes itself had ceased to employ it, having succumbed to the Ionian influence. All these phenomena are intelligible if the alphabet originated in Rhodes (which of all Greek cities was most immediately affected by the westward



FIG. 6.—INSCRIPTIONS AT ABU-SIMBEL (FROM ROEHL'S *Imagines*)

wave of Phoenician influence in the latter part of the eighth century) and was perfected in nearby Ionia. But I see no justification for asserting that this could have taken place before the end of the eighth century, since as an earlier phenomenon it is neither historically plausible nor archaeologically convincing.

The special sign for the long "O" was invented in Ionia early in the sixth century. The Ionian mercenaries at Abu-Simbel in the beginning of that century are still unacquainted with it, while only a trifle later the early-sixth-century Ionic inscriptions from Naukratis employ it.

8. In summary, it is not too much to say that we can see the Greek alphabet taking shape and can mark every essential step between a Phoenician prototype like that on the Cyprus bowl of the late eighth century and the standard universal (Ionic) Greek alphabet of the late fifth. Since all the stages are represented, there is no vacant time or opportunity for any ulterior or anterior development. Behind ca. 720 B.C. there is nothing more to be assumed.

III

Our conclusion tallies exactly with historical record and archaeological discovery.

1. Greek written records did not hark back further than the early seventh century. Thus, the recorded archons of Athens began with the year 683 B.C., and the lists of the kings of Argos and of Sparta commenced at approximately the same period. The list of Olympic victors purported to attain 776 B.C., but is not now considered to be accurate for the period before the sixth century since it is beset with contamination and propaganda.¹ The first written laws in Athens were said to be those of Dracon from the second half of the seventh century, while the earliest laws to be reduced to writing anywhere in Greek lands were said to be those which Zaleukos gave to the Epizephyrian Lokrians in 663 B.C. The most recent student of this tradition² strongly insists on its credibility and authenticity. The laws of Lykurgos in Sparta probably originated about 800 B.C.; but it was always emphasized that these were unwritten. As no lawgiver would neglect the obvious permanence attaching to inscribed tablets of stone, we must assume that Sparta in the time of Lykurgos,—or whatever the Lykurgan tradition stood for,—was illiterate. The renowned laws of Gortyn are carved on a wall which bears as an integral element an egg-and-dart moulding³ whose nearest parallel is found on the Nereid Tomb of the late fifth century B.C.; and the identity of the letter-forms with those on late fifth century coins of Gortyn adds the final proof of the true date of these archaic-looking writings.

Only the illiteracy of early times will adequately explain the absence of exact and reliable records for almost all eighth century events. Thus, as Beloch pointed out,⁴ there are only the vaguest accounts for the early period of Greek colonization in the West, whereas the seventh century is comparatively clear and accessible to us.

Homer makes no mention of books or writing. The famous incident of the "baleful signs" (σήματα λυγρά) in the Bellerophon story⁵ expresses precisely the attitude of an illiterate people which has heard distant echoes of the art of writing practised elsewhere further east or perhaps in Greece in earlier ages. Yet Homer is not such a very ancient author, as Poulsen demonstrated⁶ on excellent archaeological grounds. Such an outstanding authority as Karo in reviewing the evidence for his recent article in Ebert's *Reallexicon der Vorgeschichte*⁷ concluded that the internal archaeological indications point overwhelmingly to the world of the eighth century B.C. as the actual contemporary background of the Homeric poems. We now know that "Agamemnon" and "Odysseus" and "Proitos" could read and write. But the eighth century rhapsodes who recited their exploits were illiterate—even in Ionia.

2. Our earliest inscriptions in Greek letters date from the first half of the seventh century. From Attica there is the Dipylon vase⁸ of late-geometric type with the scratched legend:

¹ Mahaffy, *Problems in Greek History*, p. 233; Körte, *Hermes*, XXXIX, pp. 224 ff.

² Max Mühl in *Klio*, XXII, 1929, pp. 457 ff.

³ *Annuario R. S. Arch. Atene*, II, 1916, p. 303. I speak from autopsy.

⁴ *Griechische Geschichte*, I, 2, pp. 245-6.

⁵ *Iliad*, Z, 168 ff.

⁶ *Op. cit.* ch. XIII.

⁷ *S.v. Homer.*

⁸ *Ath. Mitth.* VI, 1881, pp. 106 ff.

ὅς νῦν ὀρχηστῶν πάντων ἀταλώτατα παίζει
τοῦτο δεκάν μιν

The vase is now almost unanimously assigned to the first quarter of the seventh century.¹ The inscription was incised subsequent to the manufacture of the vase, but judging from the slight value of such a vase, probably not very long afterward. From Corinth the pottery of the orientalizing period in the late seventh and early sixth centuries not infrequently carries written legend; in the preceding proto-Corinthian period writing is markedly rare; back of about 675 B.C. it ceases entirely.² Yet the manufacture of pottery can be traced back without break into early geometric times. It is hard to resist the conclusion that with 675 B.C. we have passed beyond the period when writing was known in Corinth; for there is no apparent reason why, if writing were known, it should not occur on the earlier vases. The absolute chronology of the Ionian vases does not seem to be precisely fixed. The well-known "wild-goat style" is, however, usually ascribed to the late eighth and early seventh century. It never carries painted inscriptions, though one example found in Naukratis, and therefore not earlier than the middle of the seventh century, had an inscription subsequently incised around its rim.³ In Rhodes from the graves of Ialysos there has recently been recovered⁴ in sub-geometric environment a seventh-century vase with a few meaningless painted letters strewn about the field among animals crudely imitated from oriental prototypes. This is the earliest inscription known to me from the eastern half of the Greek world. Though earlier vases than these I have mentioned exist in abundance, from all the chief centers of Greek civilization, they never carry any writing, either painted or incised.

At Abu-Simbel in Nubia the *graffiti* which the Greek mercenaries scratched on the legs of the temple colossi currently rank among our earliest examples of Greek writing. The absence of a sign for the long "O," such as is already present in the earliest inscriptions from Naukratis, would incline one to identify the King Psammetichos as the first of that name, who reigned from 664 to 610 B.C., were it not for the presence of a Phoenician inscription supposed to have been carved by a Semitic mercenary on the same expedition. As this (Fig. 4) consistently shows late forms such as could scarcely be assumed before the sixth century, we must apparently prefer the more usual identification with Psammetichos II and date the whole set of inscriptions to ca. 590 B.C. This conclusion is encouraged by the name of the Greek leader, Psammetichos, son of Theokles, because this implies that Theokles was in the service of the Egyptian king at the time his son was born—presumably at least thirty years before the inscription was carved. But a better proof of late date is the Ionic alphabet employed by the mercenary from Ialysos in Rhodes, since the Rhodian alphabet of the seventh century (as found on vases⁵) is distinctively "west-Greek" in type and apparently did not undergo Ionicization until the sixth century. General opinion among scholars today seems to be strongly in favor of Psammetichos II.

¹ Baumeister, *Denkmäler*, III, 1945, says the end of the century; but this is clearly too late.

² The earliest Corinthian inscription: the pyxis from Aegina, Payne, *Necrocorinthia*, p. 98, fig. 30.

³ E. A. Gardner, *Naukratis*, II, p. 40; pl. VI; pl. XXI, 701-5.

⁴ Illustrated, *Clara Rhodos*, III, 1929, pp. 38-39, figs. 22-23.

⁵ *J. H. S.* VI, 1885, pp. 371 ff.; *Ath. Mitth.* XVI, 1891, pp. 107 ff.; *Jb. Arch.* I., 1891, pp. 263 ff.

The point is, of course, highly important for the chronology of the alphabet; and it is much to be hoped that the true date may be established beyond dispute.

In Thera there are remarkable *graffiti* on the bare rocks of the hillside of the ancient Greek town, preserving the Greek alphabet in its oldest form (Fig. 7), comparable to the earliest Corinthian inscriptions of the seventh century. But there are definite indications that these Theran inscriptions are not as old as they look. The retrograde, "*boustrophedon*," and normal direction of writing all occur without alphabetic or other distinction; hence the general period must be that of the change of direction from the Semitic right-left to the later Greek left-right and therefore



FIG. 7.—INSCRIPTIONS AT THERA (FROM ROEHL'S *Imagines*)

probably not earlier than the middle of the sixth century. The same sign serves both for the aspirate *h* and the long E-vowel, a shift of value indicative (in a Doric environment) of a similar date. A dot in the "O" frequently distinguishes it as long; and such a distinction would almost certainly be impossible in Thera before the period just indicated. The archaic forms of the letters and the

complete absence of the "non-Phoenician" signs must therefore be due merely to conservatism and remoteness, comparable to that of the Gortyn inscriptions already discussed.

The Cretan inscriptions have been similarly misdated. Even those from Gortyn which imply a state of society before the introduction of coinage¹ need not antedate the fifth century, as Crete was numismatically singularly backward.² Some of the inscriptions from other parts of the island may be older, but not necessarily very much older. The alphabet employed on the Cretan coins of the late fifth century warns us not to set the date back too far.³ Cretan finds which can demonstrably be dated to the geometric or immediately following period are invariably uninscribed.

3. It is an idle evasion to imagine that earlier writings must have existed but perished because they were confined to papyrus and parchment. The surviving Phoenician inscriptions from earlier centuries are on stone and metal; the Minoan and Mycenaean inscriptions are on clay and stone; the extant Greek inscriptions are on stone, metal, and terracotta. Had there been a knowledge of writing in Greece during the eighth and ninth centuries, some of the writing must have taken the form of inscriptions on one or more of these materials. Ancient Greek sites have been sufficiently explored to penetrate the layers belonging to these centuries. We possess an abundance of objects from the geometric age. More and more we are uncovering the earlier written documents of the second millennium in Crete and on the Greek mainland. Had there ever existed any inscriptions from the ninth or

¹ Roberts, *An Introduction to Greek Epigraphy*, pp. 39-40.

² Head, *Historia Numorum*, 2d ed., p. 457.

³ Kirchhoff, *Studien*, pp. 74-79.

eighth centuries, we must have found some traces of them. The *argumentum a silentio* grows every year more formidable and more conclusive. A negative argument is not valueless if the negative is universal.

4. But there is also positive epigraphical indication that the Greek cities did not possess alphabets until the seventh century. Colonies established before 700 B.C. very generally employ the alphabet of their nearest or commercially most active neighbor, while colonies established after that date nearly invariably use the alphabet of their mother city. Granted the tenacity with which the epichoric alphabets persisted, this is evidence that the settlers before 700 B.C. brought no alphabet with them. Thus Rhodes never used the alphabet of Argos.¹ Thera did not employ the alphabet of Sparta, but that of its own island group. Tarentum, founded by Sparta toward the close of the eighth century, did not use the alphabet of Sparta² but of its Achaean neighbors in South Italy,—an indication that there was no alphabet in Sparta when the settlers left. The epigraphic material for the early period of Syracuse is scant; but what survives is *not* Corinthian. Yet Syracuse was colonized from Corinth about the year 728 B.C. On the other hand, Corcyra which was a Corinthian colony of the same period, regularly employed the pure Corinthian alphabet, because the island was retaken and administered by Corinth after a revolt in the seventh century. Thasos, colonized from Paros in 680 B.C., used the Parian script. Gela in Sicily, founded by Rhodes *ca.* 688 B.C., and Akragas, a colony of Gela, continued to use the Rhodian alphabet even after it had been abandoned in Rhodes itself under Ionic influence in the sixth century. Selinus, founded shortly after 650 B.C., used a peculiar *beta* which it must have derived from its mother city, Megara, and which it continued to use after Megara had abandoned it. To be sure, Cyrene, which was colonized from Thera in 631 B.C., does not seem to have used the Theran writing; but it apparently did employ the Laconian form, and this fact is in agreement with the tradition of the second colonization from Sparta under Battos II and the close connection with Cyrene shown in Laconian pottery.

This is all very important evidence, and supplements Drerup's discovery that the dissemination of the alphabet follows the seventh century trade relations of the major commercial cities. The epigraphical material is not as abundant as one would desire; but in so far as it can be controlled, it is thoroughly consistent. Unmistakably, it shows a transference of the alphabet to the Greek towns of Magna Graecia and Sicily later than the colonization of Syracuse and Tarentum but earlier than the colonization of Gela,—in other words, at the very beginning of the seventh century.

5. The most probable point of entry of the Semitic prototype into the Greek world is Rhodes, whose geographical position exposed it to the oncoming wave of Assyro-Oriental influence brought by the Phoenician westward expansion during the eighth century. Cyprus was exposed to this influence first; but the Cypriote Greeks were immune as far as the alphabet was concerned, because they still preserved

¹ Despite the peculiarly unfortunate instance of the Euphorbos plate, whose alphabet is no longer classed as Rhodian by epigraphists. (Cf. *Jb. Arch. I.*, 1891, pp. 263 ff.). For a typical archaic Argive inscription cf. the magnificent one found by Vollgraff and published in *Mnemosyne*, 1929, pp. 206-234, pl. II. ² In spite of such assertions to the contrary as Roberts, *op. cit.* p. 271.

their ancient Achaean mode of writing. In Rhodes, the Cypriote and Phoenician contact during the second half of the eighth century is familiar to all archaeologists: it is only natural that the Phoenician art of writing should form a part of this inheritance. Adapted to Greek requirements, the alphabet thence spread northward into Ionia, westward on the trade-routes to Chalkis, eastward to the non-Hellenic Carians and Lycians. The Ionians, as befitted the most advanced of all these peoples, improved and modified the tradition so successfully that in the course of time their variant supplanted all others. In his brilliant and recent study of the archaic Cretan bronze reliefs, Kunze has shown¹ reason to believe that an independent contact with the Assyro-Phoenician orient must be postulated for Crete and that during the eighth and seventh centuries this island must have been "a centre of orientalizing art, whose influence radiated far and wide" . . . "reaching its culmination and its final end in Daedalid sculpture." On the assumption of such an independent contact, it is quite possible that the Phoenician alphabet entered Greece a second time, in Crete, and that this version differed slightly from the Rhodian without departing sensibly from the Phoenician. This Cretan variant,—distinguished by its lack of a "B," its trick of inverting the Phoenician "S" (*shin*) completely instead of merely turning it on its side,² and its natural ignorance of the "non-Phoenician" characters,—spread through the neighboring islands of Thera and Melos and even reached the eastern Argolid and Corinth. But the latter city, because of its active relations with Asia Minor, soon hybridized its style, while Thera and Melos persisted through the sixth century in isolated Cretan archaism. In consequence, the sixth century rock-writings of Thera still closely resemble the late eighth century Phoenician and Aramaic, at a time when elsewhere the more advanced Rhodian (the so-called "west-Greek") and Ionian (or "east-Greek") forms had penetrated most of the Peloponnese as well as the eastern half of Central Greece. The Corinthian hybrid (still distinguished by its *san* symbol and its lack of a true *beta*) spread westward along the gulf; while the Chalcidian variant of Rhodian (distinguished by its sickle-shaped "C" and its discrepant way of reading the "non-Phoenician" symbols) after penetrating Boeotia, Phokis, and Lokris, collided with the Corinthian advance on the strip of shoreland called Achaea. The resultant Achaean tradition was carried to Magna Graecia, where it ultimately merged with its Chalcidian parent and its Rhodian grandparent in Italy and Sicily,—both of which had probably already reached the west more directly. Out of these congruent influences emerged the various native Italic alphabets, including notably the Etruscan, which was one of the earliest of the "He'lenizing" alphabets, thanks to contact either with Chalcidian Cumae or the Phocaean traders.

6. I do not in the least conceal from myself the complexity of this account or the large part which conjecture plays in it. It may even be thoroughly wrong in many particulars without in the least affecting the main contention on the late introduction of the Phoenician alphabet into Greece. The only serious reservation is a chronological one. Can such a development as has just been sketched have completed itself in so brief a lapse of time? Before we venture a reply we must ask, just

¹ *Kretische Bronzereliefs*, pp. 260-1.

² I think that there can be no doubt that *san* and *sigma* are variants of the same Semitic prototype.

how brief is this time supposed to be? Let us assume for the diffusion of the alphabet a schedule somewhat as follows:

- 720-700: Phoenician alphabet adopted in Rhodes and Crete;
Spreads to Samos and Miletos;
Creation of the "non-Phoenician" symbols;
- 700-680: Ionic variant reaches Delos, Athens, Eretria;
Rhodian variant reaches Sicily (Gela) and Chalkis, thence also Cumae;
Cretan variant reaches Cyclades and Corinth;
- 680-660: Earliest Etruscan inscriptions;
Corinthian hybrid spreads to Achaea and Achaean colonies;
Caria adapts alphabet from Rhodes or Knidos;
- 660-600: Lycian and Lydian alphabets adapted from Greek;
Writing generally diffused throughout Aegean and the Greek colonies; Epiros, Aetolia, and remoter parts of Peloponnese remain illiterate;
- After 600: Phrygian alphabet adapted from Greek.

The plausibility of such a schedule depends on the cardinal assumption that the alphabet was transmitted rapidly along the trade and colonizing routes, but spread slowly elsewhere even between immediate geographical neighbors.

7. Thus penetrating far and wide through the Hellenic world of the seventh century, the art of writing would at first have served only brief uses,—the recording of proper names, dedicatory inscriptions on vases and statues and figurines, explanatory legends on vases, short contracts, records, and accounts. In 663 we have the first recorded effort at longer composition in the laws of Zaleukos for Lokri in South Italy. But there are not yet any purely literary compositions, and it may well be doubted whether actual books can yet have existed in Greece. The trading-posts in the Delta could have transmitted papyrus and a knowledge of pen and ink. The next generation might have ventured into literature. If Archilochos, publishing his verses shortly after 650 B.C., is the first Greek "man of letters," the epithet may be so just as almost to be jesting. We must imagine still longer time to have elapsed before anyone would have had the courage (or felt the need) to copy down painfully to the rhapsode's dictation the many thousands of lines of the Homeric poems. We are scarcely entitled to assume a written text of Iliad and Odyssey much before the end of the seventh or the opening decades of the sixth century B.C. If ancient tradition asserted that the event actually took place in Athens under Peisistratos about 560 B.C., modern scholars do not do well to heap ridicule on the "legend." Whether they like it or not, literary scholars must henceforth resign themselves to the archaeological fact that if the Homeric poems were composed before the year 700 B.C., they were composed without the aid of writing.

The material civilization and intellectual endowment of ninth (and even eighth) century Greece have been vastly overestimated. Why should we persist in believing that a people who were demonstrably devoid of monumental architecture, sculpture, painting, and most of the minor arts, must nevertheless have been literate,—especially when the evidence is overwhelming that they were not?

RHYS CARPENTER

THE PAZIRIK BURIAL OF ALTAI

PLATES I-VI

INTRODUCTION

THE growth of the science of archaeology and the increase in popular interest have been very noticeable during recent years. The areas of Western Europe, the Mediterranean, Egypt and Mesopotamia especially, have been attracting a great number of specialists and the amount of information accumulated has already reached the stage where no one student can hope to master it. At the same time many regions beyond these remain virtually *terrae incognitae*.

Yet many problems in archaeology are awaiting additional information from the vast territory of Eastern Europe and Asia. It has been pointed out by many specialists that the Old Stone Age cannot be completely understood without data from this region. Likewise the origin and development of many phases of the Neolithic Age seem to point eastward also. The striking similarity between painted ceramics from Cucuteni (Moravia) and those of Tripolie (South Russia) and Anau (Russian Turkestan) has been pointed out. Modern students of Mesopotamia look to Armenia and the Caucasus for the solution of many of their problems.

Not less striking is the distribution of the so-called "animal style" found in such widely separated areas as Hungary, South Russia, Siberia and China.¹ The tremendous gap in distribution and in the sequences of style variation is being gradually filled in by works of Kozlov,² Borovka³ and others. Recently Mr. Roerich has found traces of the animal style among the present nomads of Tibet.⁴

Much information can be derived from a series of excavations conducted by the State Russian Museum in Leningrad in the region of Altai. One of the most outstanding discoveries was made in the so-called Pazirik Burial, an account of which is given below, and which furnished us with valuable data concerning the mode of life of these ancient nomadic groups which seem to have been the disseminators of so many cultural elements.

During my visit to Leningrad in 1931, I had the opportunity of personally examining the Pazirik finds, and securing information and photographic material. Mr. M. P. Giaznov, the excavator of Pazirik has graciously given me permission to publish an account of this discovery, preliminary notices of which appeared in Russian⁵ in 1930. The article presented below represents a combination of my translation of an article specially written by Mr. Giaznov, with additional material which I have taken the liberty of including from his articles referred to above.

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EUGENE A. GOLOMSHTOK

¹ M. Rostovtzeff, *The Animal Style in South Russia and China*, 1929; *Le Centre de l'Asie, la Russie, la Chine et le style animal*, Экзотика I, Prague, 1929.

² P. K. Kozlov, "The Noin-Ula Monuments," *Northern Mongolia*, Leningrad, 1925.

³ G. Borovka, *Scythian Art*, N. Y., 1928.

⁴ J. N. Roerich, *The Animal Style Among the Nomad Tribes of Northern Tibet*, Prague, 1930.

⁵ M. P. Giaznov, "The Pazirik Burial of Altai," *Priroda* No. 11, 1929; "Excavation of the Chief's Grave in Altai," *Tchelovek*. No. 2-4, 1928; cf. S. R. "A Scythian Grave in the Eastern Altai," *Communic. of the Ac. of Nat. Civ.* 1931, pp. 23 ff.

THE PAZIRIK BURIAL OF ALTAI

THE nomads of the Steppes, constantly moving with their herds over the enormous plains of Eurasia, had definite boundaries for their migrations, the trespassing of which led to conflicts with neighbouring nomadic groups.^(a)¹ Each tribe or tribal alliance, each clan or community had a definitely established grazing territory, thus being more or less tied to a certain locality. Each nomadic group moved freely only within the limits of its region, and was in fact closely connected with it.

This connection of nomadic groups with the territory of their movements is especially apparent from the burial customs. Regardless of the place where this or that nomad died, if he had occupied any position in his group, he would necessarily be buried near his ancestors in the cemetery of his clan. The deceased was carried for hundreds of kilometers to be interred with his forefathers. It was done thousands of years ago. It is done now. The group of kurgans of Scythian kings is undoubtedly of this origin. This is also true of the chains of enormous kurgans in the valley of the Chu river (Kirghizian A. S. S. R.), which evidently represent the clan burial grounds of chiefs or notables of the Saks tribe. We have the same picture in the group of Noin-Ula kurgans, where are buried "Shaniyu's"² of Huns and other noblemen, and in the series of other groups of rich burials in many other places as yet not investigated.^(b) All this points to the custom of the nomads of burying their chiefs, military leaders and other noblemen in the clan burial grounds.

The presence in a certain region of rich burials of nomads does not necessarily mean that the nomads actually lived there. It simply means that this region was included in the territory belonging to the nomads buried there, and as often as not this region may be situated on the periphery of their land. Doubtless this is the case with the large stone kurgans of Altai. More than a hundred such kurgans are scattered in various valleys of the Altai mountains, which are ill-suited for free migrations.

The kurgans of Altai are situated among the mountains in small groups of chains running from north to south. They represent small clan burial grounds of the leaders. These kurgans have been little investigated. In 1865, V. V. Radlov excavated two such kurgans, one in the upper part of the Katune River near the village of Katanda, and another in the upper part of the Bukhtarma River, on the Berel River.³ In both kurgans excavated by Radlov, the burial was in a condition of continual frost, in consequence of which the objects were found in an unusual state of preservation. The very complex construction of the wooden burial chamber was ideally preserved as well as the numerous art objects of wood and birch bark, rich fur-clothing covered by Chinese silks, and many wooden, gold-covered decorations.

In spite of the brilliant results of Radlov's excavations, the Altaian kurgans have remained uninvestigated for more than sixty years. In the region of the mountains

¹ See the translator's notes at the end of the article. The letters *a*, *b*, *c*, etc., refer to these notes.

² Chiefs.

³ W. W. Radlov, *Aus Siberien*, Leipzig, 1884; Zaharov, "The Antiquities of Katanda," *Journal of the Royal Anthropological Institute*, LV, 1925; "Material on the Archaeology of Siberia," *Eurasia Septentrionalis Antiqua*, III, 1928.

of Altai there were no scientific investigations or study of antiquities after Radlov outside of the work of Adrianov in 1911 on the Bukhtarma River.¹ It is only since 1924 that Altai has become the object of systematic archaeological investigations organized by the Ethnographical Section of the State Russian Museum in Leningrad.

The expeditions of the Russian Museum conducted excavations in different regions of Altai during a number of years, endeavouring to discover all types of archaeological remains to be found in the Altai region. In 1927 the time came to excavate the large stone kurgans similar to those investigated by Radlov. In the central part of the Altai Mountains in the locality of Shiba on the Ursula River, the author excavated a rich burial of a chief belonging, to judge by the objects found, to the period shortly before the Christian era.² This burial was also subject to continual frost which resulted in a wonderful preservation of the materials. In spite of the fact that it had been robbed long ago, the materials obtained were so rich and various that it was possible on the basis of the finds to form a sufficiently detailed picture of the culture, as well as of the construction of the society and the social relations.^(c) Among the objects found in the Shiba burial especially interesting to us are the mummified corpses, the bridles, the carvings in cedar and the designs cut out of the bark of the poplar tree in the characteristic "Scythian animal style," the digging implements (wooden spades and bone picks) and numerous decorations stamped on gold.³

The expedition of 1929 excavated a second similar burial in the Eastern Altai near Pazirik (Yan-Ulaghan River). Here also the burial was in a condition of perpetual frost. Thanks to the peculiar combination of circumstances all objects found in the grave were firmly cemented by the ice, in consequence of which the processes of decay were completely arrested. It seemed as if the hand of time had not touched the objects which had been lying in the grave more than two thousand years. The ten yellow mares which had been buried with the man were preserved so well that not only skin and hair, but muscles, and entrails with the remains of undigested food in them were found.

On the handle of an axe discovered there could be seen the shiny surface, polished by the hands of the man using it, as if this axe were left yesterday and not thousands of years ago. This exceptional state of preservation of the objects in the Pazirik burial puts it in a class by itself among all other burials found in Siberia. The materials of the Pazirik kurgan illuminate with unusual brilliancy the different sides of the economic and social life of the nomads, who buried their chiefs in the mountains of Altai.

The Pazirik kurgan is situated 1500 meters above the sea level in the dry bed of an ancient glacier. It is one in the chain of five kurgans stretching from north to south. The investigated kurgan represents a stone-pile mound some two and one-

¹ A. V. Adrianov, "The Archaeology of Western Altai," *Izvestia of the Archaeological Commission*, St. Pet., 62, 1916.

² The most accurate indications of the dating of the Shiba burial are to be found in a fragment of a Chinese lacquer cup discovered there. Prof. S. Umebara very kindly dated this cup on the basis of its ornamentation between 86 and 48 B.C.

³ On the Shiba burial, see the author's article in the *Wiener Prähistorischen Zeitschrift*, XV, 1928.

half meters in height and fifty meters in diameter (Fig. 1). The very indefinite form of the stone mound and the hardly perceptible depression on its top indicated an ancient robbery of the burial beneath, a supposition confirmed by excavation. Under the stone pile was discovered an earthen mound of similar form but of smaller



FIG. 1.—PAZIRIK. GENERAL VIEW. THE EXCAVATED KURGAN IN THE CENTER

dimensions, with a well-pronounced funnel-like pit on the site of the robbers' excavations. Finally under this earth mound, in the centre of the construction over the grave was a square grave-pit with vertical walls. Its area was 53 m. square (7.2 x 7.2) and 4 m. deep (Fig. 2).

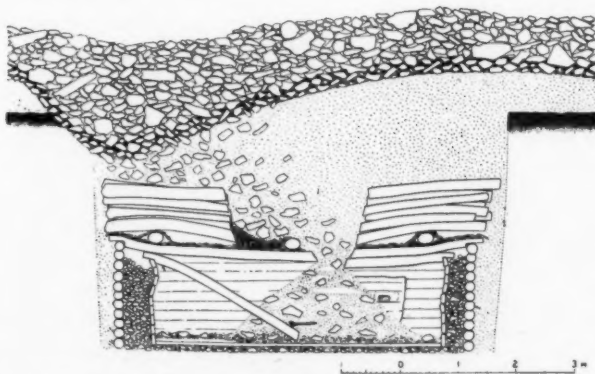


FIG. 2.—CROSS SECTION OF THE MOUND SHOWING CONSTRUCTION OF BURIAL CHAMBER

The enormous pile of stones over the burial has created the most favorable condition for its preservation, since the loose stones are bad conveyers of heat, and at the same time the cold, heavy air easily penetrates the lowest layers of the pile. As a result, everything situated under the stone pile freezes during the first frost of winter, which begins in this locality about August and ends in June. In summer

the frozen ground has no time to thaw, as the stone and earth mound has not been thoroughly heated through. Besides this, the cold lower layers of the stone pile serve as very strong condensers of the humidity from the air. Consequently, there was a large quantity of water both in the mound and in the grave pit proper. The Pazirik burial was found filled with water which was frozen, and the processes of decay were stopped in their very beginning. Thus it seems that large stone mounds in regions of high altitude create the best conditions for the conservation of objects against the actions of time. The inside appearance of the burial gave the impression that hardly a year had passed since its construction.

The very timber out of which the burial chamber was built had not only preserved its original shape and quality but had retained its fresh smell of pitch.

The wooden chamber of the deceased did not occupy all of the grave pit. It was situated in the southern larger half of the grave. The chamber, together with the floor was constructed of boards and although the room was spacious, the log ceiling was low. Over this chamber was another enclosure made of logs with a log ceiling. The space between the walls of this double chamber was filled with loose

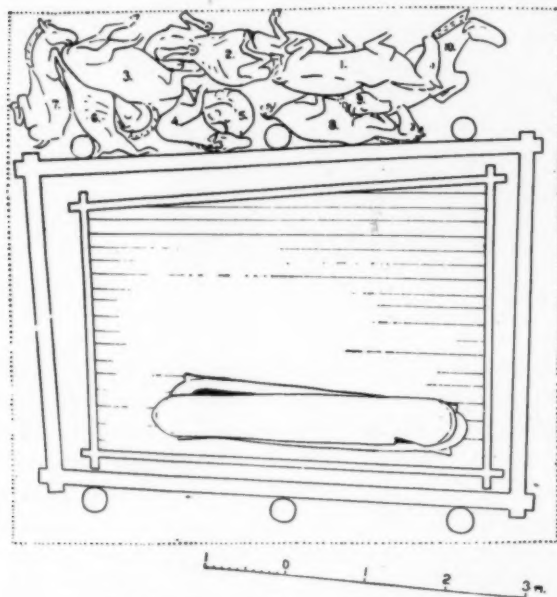


FIG. 3.—GROUND PLAN OF THE BURIAL

stones. All this construction occupied the southern part of the grave and contained the burial of the deceased and the grave furniture. In the northern smaller part were deposited the bodies of horses killed for the burial (Fig. 3). Over the chamber and the bodies of the horses were placed about three hundred thick logs, evidently to prohibit robbers from entering. To prevent this mass of heavy logs and the layer of earth over them from crushing the wooden construction of the burial chamber there were three pairs of special pole-braces which supported the whole weight of the logs and earth.

In spite of all precautions on the part of the builders, the burial had been plundered. The robbers dug a shaft in the centre of the kurgan mound and reached the pile of logs. There they cut a wide passage with axes and reached the ceiling. Here they made a small circular hole through which they took everything from the burial chamber that was in their opinion valuable. To make their work easier they apparently dragged the body itself outside, to be better able to strip it of its gold decorations. When they had finished, hardly anything was left. The sar-

cophagus hollowed from the trunk of an enormous fir tree was found empty with its lid overturned (Fig. 4). It was covered with the bark of the "tcheremuha" tree glued to the surface and decorated by an appliqué of bird-figures cut out of leather (*d*) (Plate I). On the wall of the chambers here and there were copper and wooden nails and pieces of felt. The walls once were covered with a thick, black felt carpet decorated with a border of thin felt of many colors with representations of



FIG. 4.—SARCOPHAGUS FROM THE BURIAL CHAMBER

tigers' heads in profile done in appliqué work (*e*) (Fig. 5). Pieces of this felt were strewn on the floor among other rubbish. Here were found also several objects of undetermined purpose.

To judge by the size of the coffin and burial chamber, many objects must have been placed with the body. Yet the robbers evidently penetrated there soon after

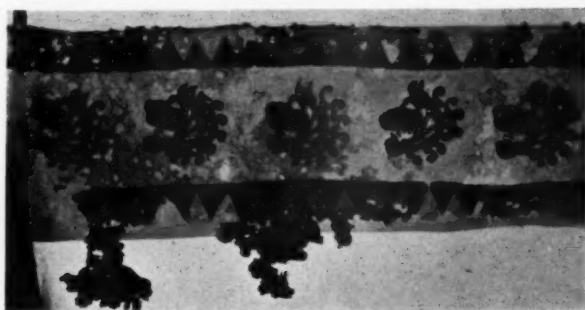


FIG. 5.—FRAGMENT OF FELT CARPET DECORATED WITH TIGERS' HEADS IN APPLIQUÉ WORK

the burial and found everything in such a state of preservation that they could take complete objects to the surface and there strip them of their valuables. This is the reason so few objects were found in the burial chamber itself.

[The northern part of the grave escaped the robbers. Although they attempted to enter here, they were able to make only a small opening not large enough for a head to pass through. In the operation they apparently broke an axe, leaving be-

hind the handle which was found near the entrance. The form of this handle is interesting as it was made out of a branch of a pine tree where it joined the trunk. Consequently they had a long handle with the trunk part on one end, well suited for



FIG. 6.—ONE OF TEN HORSES SACRIFICED AT THE BURIAL OF THE CHIEF AND FOUND IN MUMMIFIED CONDITION

the hafting. The celt itself was carried away by the robbers. This section of the grave was preserved exactly as it was left by the constructors of the kurgan. Under the thick layer of birch and fir bark were corpses of ten horses with a corresponding number of saddles and trappings. The horses were killed by a blow from a sharp axe on the forehead and were thrown into the bottom of the grave pit. In disorder, in various poses, they filled the narrow space between the outer wall and the northern side of the grave pit (f) (Fig. 6).

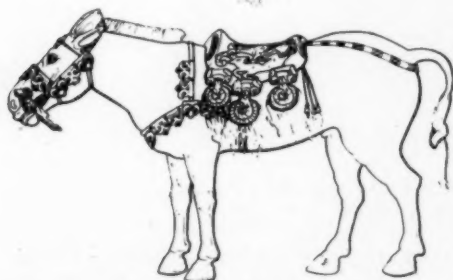


FIG. 7.—RECONSTRUCTION SHOWING BRIDLE AND SADDLE TRAPPINGS OF PAZIRIK HORSES



FIG. 8.—RECONSTRUCTION OF SADDLE

The exceptional state of preservation of the horses and the saddle trappings allows us to study not only the animals themselves, but many questions such as

the technique of work on wood, leather, fur, and felt and the processes of dyeing, gilding, etc. The study of these in their interconnections makes possible a partial reconstruction of the picture of the social and economic life at the time of the Pazirik burial.

The construction of the saddles is very simple (Figs. 7, 8, 9). They were made of two soft pillows of finely tanned leather and felt, stuffed with reindeer hair. There is a belly-strap, a breast-strap (to prevent backward sliding), a tail-strap (to prevent forward sliding). There was no wooden foundation for the seat and there were no stirrups. A square piece of felt was placed under the saddle to prevent chafing.



FIG. 9.—SADDLE IN EMBROIDERY AND APPLIQUÉ SHOWING ANIMAL STYLE

Over the pillows were placed special covers made out of fine thin felt, with felt or leather trappings hanging on both sides. The cover was usually decorated with scenes of animal combats in appliqué work (Plate II, A, B, C). This style is well known from the gold plaques found in Siberia (*g*). The decorations on the saddle trappings also represent animals or parts of them. The breast-straps and bridles are covered by plaques carved out of cedar and gilded or silvered. Here also animal representations predominate. One is struck by the diversity of subjects, the technique of execution and richness of design. Altogether more than forty different representations embodying the animal style were utilized. All saddles and bridles were of the same type. The bridle, besides the main strap over the head, has one over the nose and forehead and one under the chin (Figs. 10, 11). The bits are simple, one of bronze, the rest of iron. All bridles are of wood and were decorated with numerous designs carved in low relief and covered with gold or silver leaf (*h*) (Figs. 12-16, Plate III).

This find is very important, since, up to the present time in Scythian burials we have found few remains of saddles, except those at Sebastopol. Only on some de-

signs and on one plaque have we schematic representations of saddles, but owing to their small size it has been impossible to form an idea of their construction.

Especially rich were the decorations of two horses. Besides the saddles and bridles, near their heads were buried ornamented leather covers for the tails and similar covers for the manes and finally masks for the heads. The latter are of unusual interest.

On the head of one of the horses was a mask made of leather, felt, fur and gold leaf in the shape of a reindeer's head with horns of natural size (Figs. 17-19). On



FIG. 10.—BRIDLE OF CARVED WOOD

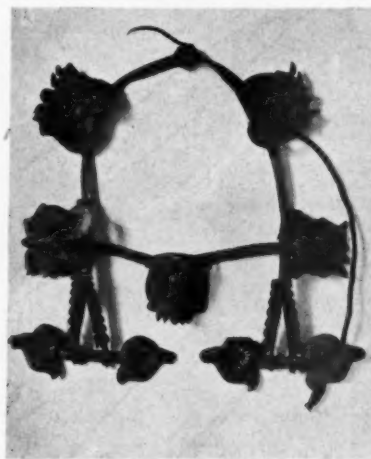


FIG. 11.—BRIDLE OF WOOD. SOME HORNS ARE OF LEATHER

the front part of it was placed a figure of a bear cut out of fur. The second mask has a composition of two animals, representing a bear and a griffin (Fig. 19). The latter has large wings and a sculptured head with bull's horns.

The gilded figure of the bear covered the upper lip, nose and forehead of the horse. The figure of the griffin covered the cheeks and its beautiful wings towered from the top of the horse's head. The wings occupied the place of the reindeer's horns on the first mask. All of this was colored, silvered and gilded.

These masks are interesting for us inasmuch as they tend to confirm the theory of N. Y. Marr concerning the order in which the domesticated animals were utilized for travel. On the basis of linguistic materials, Marr has sought to establish the fact that the reindeer as an animal for transportation purposes preceded the horse.

In a recently published work (1928) on the origin of the domestication of the reindeer, Professor Maximov agrees with Gann, Laufer and Gatt, that the Altai-Sayan region was the centre of distribution of the domesticated reindeer, but he thinks that reindeer breeding is a later acquisition of culture, being as it were, the result of the domestication of horse and cattle. It is possible that in the Altai-Sayan region reindeer were used in antiquity for riding and that the type of saddle found in our kurgan or perhaps an even more primitive type originated for use with the reindeer and was only later used for the horse.

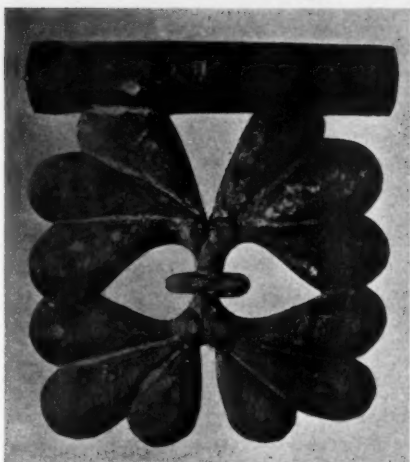


FIG. 12.—HORSE TRAPPINGS OF CARVED WOOD. PLANT MOTIVE



FIG. 13.—HORSE TRAPPINGS OF CARVED WOOD. ANTHROPOMORPHIC DESIGN



FIG. 14.—HORSE TRAPPINGS OF CARVED WOOD. CONVENTIONALIZED ANIMAL DESIGN



FIG. 15.—HORSE TRAPPINGS OF CARVED WOOD. ELK WITH HORNS OF LEATHER



FIG. 16.—WOODEN HORSE TRAPPINGS WITH GEOMETRICAL, ANIMAL AND CONVENTIONALIZED ANIMAL MOTIVES

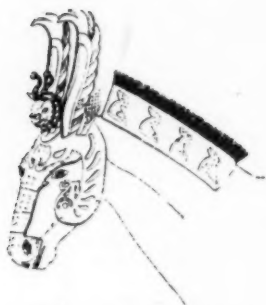


FIG. 19.—RECONSTRUCTION
OF MASK REPRESENTING
A GRIFFIN AND BEAR



FIG. 17.—THE "REINDEER"
MASK

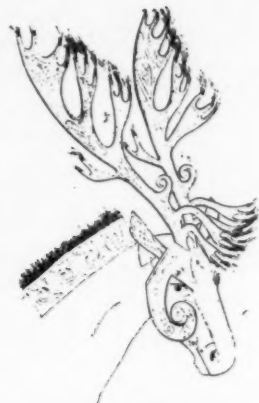


FIG. 18.—RECONSTRUCTION
OF MASK SHOWING REIN-
DEER HORNS AND GILDED
LEATHER



FIG. 20.—ORNAMENTAL PLAQUES OF CARVED WOOD FROM SIBERIA (AFTER BOROVKA)



FIG. 21.—GOLD ORNAMENTS FROM THE "SEVEN BROTHERS," KUBAN DISTRICT (AFTER ROSTOVITZEFF)

The mask with the reindeer horns in the burial ritual speaks in favor of the priority of the reindeer. The buried horses are the same animals which were used during the life of the master and his burial procession; they follow the master to the other world. If the reindeer was the basic means of transportation among the natives, it was necessary for him to follow them to the hereafter. With the substitution of the horse for the reindeer in economic life, the latter was preserved in the rituals. Later the conservative ritual demanded the masking of the horse as a reindeer. By the time of the kurgan in question, the horse had completely taken the place of the reindeer as a means of transportation and even the meaning of the participation of the reindeer in the burial ceremony is forgotten. While one mask has typical reindeer horns, the second deviates considerably from the original model. Under later cultural influences, appears the horned head of the griffin and the place of the reindeer horns are occupied now by the wings of the griffin. Considerable time must have elapsed for the change to have taken place in the ceremony. Here we have the material confirmation of the theory of Marr.

It is impossible in this short article to describe with any degree of completeness all the finds made in the part of the burial occupied by the horses. There are shields made out of sticks sewed together with interlacing strips of leather and hung on the right side of the saddles. In spite of their small size it is evident that we are dealing with armour. We recognize in them the shields known to us from representations of fighting Scythians on the gold of Greek manufacture from the kurgan, Solokha.

There were also found fur bags for provisions; one is made from the head of a lynx, having a corresponding form, the other is cylindrical in shape with a round leather bottom. Both are decorated and are made from pieces of leather and fur of different colours. They are in a beautiful state of preservation and form exceptional objects for archaeological museums.

The variety of technique and design is striking. Eagles and moose, reindeer and mountain goat, bears and griffins, birds and fish, figures in "flying gallop," single heads, peculiar combinations of animals, the head of one in the mouth of another, carnivora attacking animals from mountains and forests with the characteristic bent back head, in numerous combinations and variations, disclose a very rich but so far little known culture.

The great majority of decorations, with the exception of a comparatively small series with plant motifs, are adorned with a very characteristic and very peculiar animal style. In the decorations of saddle trappings, wool, leather, thin felt, fur, and horse hair are employed, embellished with silver and gold, red, blue and yellow pigments. Absolutely unique examples of art were thus created.

It is necessary to mention the finds in the upper part of the grave pit. There, among the logs, were discovered two yokes for bulls and the parts for an arba.¹ Evidently we are dealing here with the very widespread custom of leaving in the grave of the deceased the vehicle on which the body was carried. The arba, to judge by the well preserved upper longitudinal axis was of small dimensions and was very likely two-wheeled. The yoke was very simple, in the form of a stick with holes in the centre for fastening to the shaft and two pairs of holes on the ends,

¹ I.e., a cart.

for the sticks placed on the sides of the bull's neck. It should be pointed out, that among the numerous objects found in the burial there is nothing which could indicate a foreign origin. The whole complex of finds is exclusively of local manufacture.

Usually in the large kurgans (Noin-Ula, Shiba, Katanda) some objects of Chinese and Greco-Bactrian origin are encountered. Perhaps it can be explained by the fact that Pazirik is situated in high, hardly accessible mountains, far from any trade or cultural routes. Consequently the finds of Pazirik represent the product of local Siberian culture, widely distributed beyond the borders of Siberia, but very much changed there owing to influence of neighboring cultures, such as Chinese and especially Greek. Such is the case in many Scythian kurgans of South Russia which are so impregnated with the elements of Greek culture that their basic native color is hardly noticeable.

The main occupation of the constructors of Pazirik was herding. We are led to this conclusion by the natural conditions of the country, where agriculture was impossible to any large degree, as it is today. The whole complexion of the local industry indicates that we are dealing primarily with herding peoples. Of course this does not exclude hunting as an occupation. The moose, reindeer, mountain goat and bear, the favorite motives in decorative art, are executed with a knowledge possible only to people who have observed them directly in life. The horse and sheep of many colors (black, white and brown) were the main domesticated animals. The burial of horses with the deceased of all classes shows that we are dealing essentially with a horse-using people. The numerous felt objects made of sheep's wool of different colors and of different quality indicate very well developed sheep herding.

The material obtained gives us data about various technical processes and the comparatively rich and complex social structure. The Pazirik kurgan is a monumental structure, requiring a considerable number of workmen for the earth, stone and wood work, demanding organized means of transport to erect this structure in a short time. Hundreds of logs were used for the building. That both axes and adzes were used is seen from the traces of the tools on the numerous logs and thick boards. Wood carving was very highly perfected, perhaps with the use of special knives. The remains of textiles are insufficient to determine the place of origin. Though bone work is absent here, the technique of bone work and bone carving was well known and was well developed as can be seen from the beautiful examples of it in Katanda and Ursula kurgans. Felt making, leather tanning, and the preparation of furs were also very highly developed. We have examples of the different types of felt, from the thick and rough type to the thinnest, finest kind, rivaling the modern machine-made felt. The finer type was used mostly for decorative purposes. Quite as diverse was the leather work. It varies from the thick belts for the saddles to the thinnest leather cut out in various designs. Well tanned furs were well preserved in spite of the fact that they were for a considerable time in the water and then in the ice. There is no decoration of twined horse-hair but it was utilized as a medium of decoration. Dyeing methods were well known. Felt, fur, leather and hair were dyed with red, yellow and blue pigments. Both vegetable

and mineral dyes were used in solution as well as on glue. Pottery was present, large vessels being well fired. There are reasons to think that metallurgy was developed. Mining may have been practiced, though we have found no actual mines as yet. From the complex excavations conducted in making burial pits seven and more meters deep, one might conclude that mining was possible. Bronze and iron tools were widely used and gold was most likely one of the main articles of import. In the burials of the ruling class many gold objects were found.

The population was well versed in the technique of silvering leather and wood; various objects were decorated with thin gold leaf, the designs being pressed out and glued. The perfection of the carved-out wood and cut-out leather objects, together with the jewelry, prove the existence of specialists and perhaps a separate class of artisans.

The people to whom the Pazirik burial belongs were a sedentary or semi-sedentary group, as is natural considering the geographical condition of the country where the herding even today is combined with a sedentary mode of life. This is also indicated by the presence of pottery, by the fundamental log structure in the grave, showing the knowledge of house construction. The details of the burial chamber tell us something about house construction.

The social organization was that of the clan type with the head of the clan as the leader, as far as it is possible to surmise on the basis of the domestication of animals as the economic base. More than likely, we are dealing here with a period leading to the decay of clan organization. The character of the burials allows us to surmise the existence of three economic groups—that of the rich, middle class and poor. Along with this we have indications of a well-formed concept of private property as is shown by the property marks on domesticated animals. The buried horses have cuts on the ears, some on the right, some on the left, one, two or three, showing that the horses belonged to different individuals. We know from Herodotus that Scythians carried the bodies of kings among conquered tribes and those of noblemen among friends, each place providing the funeral festivity. Food and presents were given to the deceased. Among those presents may have been horses.

The horse was the means of transportation. It was ridden and also used for carrying heavy objects. Logs were dragged by a method used today, viz., by making a hole in one end of the log and fastening a rope through it to the horse. Boats may have been known, at least the dug-out type made in the same way as the sarcophagus.

Objects of decorative art are numerous in the burial. Their technical details and subject matter make it possible for us to assert that we are dealing with Scytho-Sarmatian or Scytho-Siberian art expressed in realistic forms and presenting us with unique examples not possessed up to this time. The plant motifs are very interesting but the animal style is of exceptional importance. The force of the artistic execution, the mastery of design, and well developed style are remarkable. Even if there were borrowings, the treatment was very original.

To summarize: it is evident that the excavated burial belongs to one of the tribes of Eastern Altai, which herded animals as a major occupation and which, during the several centuries before our era dominated the vast territory from Mongolia to the

Carpathian mountains. They seemed to possess a very similar culture, known from the times of Herodotus under the collective names of Scythians, Sarmatians, Massageti-ans, etc. Precise dating cannot as yet be given.

The excavations of the Pazirik kurgan have opened for us one of the pages of history of the nomadic world of the Asiatic steppes. In the valley of Pazirik there still remain four more similar kurgans belonging very likely to other members of this clan. The excavation of these, which is included in the plan of the immediate future, will reveal several other pages as yet closed to us. These excavations are very important, as they may enable us to determine more accurately the chronological succession of the burials by the remains of the wood and therefore to place the material studied in a definite sequence, which up to now, at least in the region of Europe and Asia, has not been done.

M. P. GRIAZNOV

TRANSLATOR'S NOTES

(a) This is similar to the well known boundary restriction of the hunting territories among the northern tribal groups of North America.

(b) The kurgans of Noin-Ula in Mongolia where the burials of Hun (?) chiefs were disclosed were excavated by the expedition of P. K. Kozlov. Objects of gold, bronze, copper, Chinese silk with richly embroidered "animal style" designs, woolen textiles with decorations in a Greek style, remains of clothing, etc. were found. See P. K. Kozlov, "The Noin-Ula Monuments," S. A. Teplouhov, "Excavation of the Noin-Ula Kurgan," and G. I. Borovka, "The Cultural and Historic Significance of the Kozlov Expedition," in the volume, *Northern Mongolia, Russian Academy of Sciences*, Leningrad, 1925 (in Russian).

(c) The plundering of the burials seems to be a quite ancient occupation. A great majority of burials, especially those which have any distinguishing marks such as earth construction, or rows of stones, have been robbed in antiquity as well as in recent times by plunderers seeking the gold objects so often found there.

(d) This motive of birds in opposition was achieved by cutting a piece of leather which had been folded double. It is very similar to the designs of Tungusian tribes of the Amur river (Plate II, D), who used the same method of folding and cutting the birch bark to obtain the double or quadruple designs.

(e) The head of a lion or tiger is employed very frequently as a decorative motive in "Scytho-Siberian" cultures. Thus we have ornamental plaques from the horse trappings of cast bronze from the Crimea (the barrow near Eltegen, Borovka, *op. cit.*, plate 16 A and D) and from the Dnieper district, Kiev Grmt (*Ibid.*, B and C). Not less striking is the similarity to the ornamented plaque of carved wood and horn from Siberia (Fig. 20, after Borovka, *op. cit.*, plate 60, e; 61, g).

(f) Quite contrary to all expectations the Pazirik horse is not of the well known type of wild horse found in Siberia (*Equus Przewalskii*), or the short sturdy Kirghizian type, but shows evidence of long domestication and breeding, reminding one of the racing type found among the Arabs.

(g) The representation of two fighting animals has a very wide distribution, and is found in Mesopotamia, Palestine, Greece, etc. No one can deny the cultural affinity of the Siberian gold plaques Pl. VI (Cf. Rostovtzeff, plates XV, XIV) and especially a group on a gold ornament from the "Seven Brothers" (Fig. 21, after Rostovtzeff, *Iranians and Greeks*, plate XIII) with the designs on the Pazirik saddle covers. The method of representation, the stylistic details are similar. Perhaps the nearest analogy is the design on a large carpet from Mongolia, woven with appliqué work in purple, brown and white. (Pl. IV, after Borovka, plate 73). Here we also have an elk bent by the weight of an attacking griffin. The outlines are stitched with cord.

(h) The graceful representation of a young elk lying down (Fig. 15) is executed with a degree of taste and mastery of technique almost unparalleled. The animal's feet are drawn under, as in so many examples from South Russia and Siberia. The profile of the head, the mode of representing the ears, legs and hoofs is almost identical with that on the ornamented plaque of carved wood from Altai (Pl. V, A, after Borovka, plate 59) or with the gold ornament from the shield (?) from Kostromskaya, Stanitza, Kuban district of VII-VI c. B.C. (Pl. V, B, after Borovka, plate I). The peculiar back turn of the head is likewise very often met in examples of "Scytho-Siberian" art. Rostovtzeff (plate VII, top) reproduces horse trappings of bone from the Shumeiko farm where a very similar figure is incised. Compare also the figure on the pole top of cast bronze from Ul'ski Aul in the Kuban district (Borovka, table 24); the ornamented gold plaque from Donetsk district, Gov. Kharkov (Borovka, plate 3 d); the bronze plaque from Minusinsk, Siberia (Borovka, table 43 c); a figure of a running deer from a brass charm box from Derge, Mongolia (Roerich, table II 3). Perhaps the nearest analogy can be seen in the animal figure carved of wood with holes for the horns from the Katanda grave in Altai (Borovka, table 63 b).

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THE ARCHONSHIP OF EKPHANTOS

A RECENTLY discovered honorary decree from Rhamnous, though already discussed in several articles,¹ deserves further notice because of the misinterpretation of a very important item of evidence with regard to Hellenistic chronology (Fig. 1). The decree is dated in the year of the Athenian archon Ekphantos; and it appears that a certain Dikaiarchos, son of Apollonios of Thria, had served during three or more years under appointment from the Macedonian king, the final appointment being made in the year of Ekphantos by Demetrios II (line 17). So it is evident, as Ferguson in

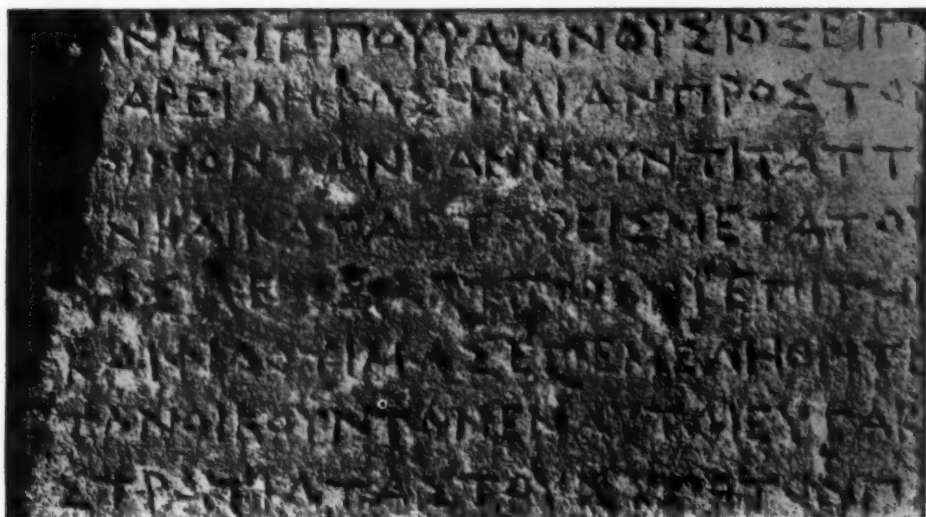


FIG. 1.—LINES 2-9 OF RHAMNOUSIAN INSCRIPTION SHOWING ERASURE IN LINE 6

fact demonstrated in 1906,² that Ekphantos must be placed after the death of Antigonos Gonatas and the succession of his son to the throne. But Stavropoulos read the name of King Demetrios also in the sixth line of the inscription, where the record of the first appointment is preserved. He states that the name is certain, even though erased, because of traces of letters still preserved on the stone. Kougeas argues that, while the stonecutter may possibly have engraved the name of Demetrios by mistake, yet the contents of the inscription suggest that the early appointments must have been made by Antigonos. Finally, Roussel affirms that the traces of the letters in line 6 permit the restoration of the erased name of the Macedonian king as Demetrios. Consequently, he considers it an established fact that the appointments of Dikaiarchos were all made by Demetrios II, and that the year of the archon Ekphantos must be four or five years after his succession to the

¹ P. B. Stavropoulos, *Ἑλληνικά*, III (1930), pp. 153-162; S. B. Kougeas, *ibid.*, pp. 156, note 1, 288; P. Roussel, *B.C.H.* LIV (1930), pp. 268-282.

² Cf. Dinsmoor, *Archons of Athens*, pp. 103-104, 180-181.

throne. The inscription might thus be used as a telling piece of evidence in favor of the Ferguson-Kirchner chronological table of archons (Ekphantos 236/5) as against the scheme of Dinsmoor (Ekphantos 239/8).

But it would seem that neither Kougeas nor Roussel personally examined the stone for the reading of line 6. For, in spite of the assurances given by Stavropoulos, the erased name was actually that of Antigonos, every letter of which, in spite of the attempted erasure, can be distinguished with certainty. The accompanying photograph shows these traces, though somewhat less clearly than the original. So far as chronological determinations are concerned, therefore, this inscription offers not the slightest evidence against Dinsmoor's dating of Ekphantos. It seems advisable to settle this point definitely before it develops into a fallacious argument in the study of a period wherein so many contrary theories are involved.¹

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¹ As a matter of fact, since the above was written, the erroneous reading of Demetrios has been cited as evidence by Ferguson, *Athenian Tribal Cycles in the Hellenistic Age* (Cambridge, Mass., 1932), pp. 13-16, 20, 75, note 1, 89, 93; but cf. pp. 179-180. (W. B. D.)

TWO BRONZE STATUETTES

PLATES VII-VIII

A FAMOUS Greek statuette known as the Haviland bronze¹ (Pls. VII A; VIII A; Fig. 1) has come to the Metropolitan Museum as an anonymous loan.² Besides being one of the finest bronze statuettes of the fourth century B.C. that have survived it presents an intricate archaeological problem. There is in the Providence Museum a similar statuette (Pl. VII B; VIII B), similar but not identical, of approximately the same size.³ An account of this statuette was given by S. Reinach in a brilliant article in the *Monuments Piot*,⁴ in which he traced the history of the statuette and also noted its similarity to the Haviland bronze. He did not, however, compare the two statuettes with each other and face the problem of their relationship, for the simple reason that he could not compare the two originals, the Haviland bronze at that time being in Limoges.⁵ And yet this relationship is extremely important. Is one statuette a copy of the other? Or do both go back to the same original? Are both genuine? Are they contemporary or of different periods? These questions I have asked myself ever since I knew of the existence of the two pieces; but it seemed impossible to come to a conclusion merely by comparing photographs. The only way was to study the two statuettes side by side. This opportunity I have now had, thanks to the happy circumstance of the loan of the Haviland bronze to the Metropolitan Museum and to the great kindness of L. Earle Rowe and the authorities of the Rhode Island School of Design, who sent their bronze to New York for this comparison. Since it will probably be difficult to duplicate this opportunity I will give a short account of the findings of this examination.

Of the genuineness of the two pieces there is to my mind no doubt. The style and the physical condition of both bronzes point to an ancient origin. The Providence bronze is in comparatively good condition, the only restorations (in bronze) being the left arm from below the shoulder, and the lower part of the right leg from just below the calf.⁶ The difference in the modelling and physical condition between these restored portions and the rest of the figure is a convincing sign of the antiquity of the latter. Moreover, the restored parts are not identical with the parts missing in the Haviland bronze, which are the left lower leg⁷ from above the knee, the front part of the right foot, and a piece in the back.

¹ Height 18 in. (45.7 cm.).

² *B. Metr. Mus.* XXVIII, 1933, p. 13 (there figured without the restored leg). Published previously by Reinach, *R. Arch.* II, 1899, pl. 20, pp. 371 ff., and *Répertoire de la statuaire*, II, p. 341 [2]; *Ch. Haviland Collection, Sale Catalogue* for Dec. 11-12, 1922, p. 30, no. 151, pl. X; *Georges Haviland Collection, Sale Catalogue* for June 2-3, 1932, p. 78, no. 218, pl. XL. ³ Height 47 cm. (18½ in.).

⁴ XXVII, 1925, pp. 132 ff., pls. XII, XIV; reprinted in the *Bulletin Rhode Island School of Design*, XIV, October, 1926, pp. 38-42.

⁵ "Elle . . . se trouve, m'assure-t-on, en Limousin" (S. Reinach, *op. cit.*, p. 134).

⁶ The preserved back portion of the right foot in the Haviland bronze indicates that the foot rested with the heel on the ground, not slightly lifted as restored in the Providence bronze.

⁷ The left lower leg has been restored in plaster after the ancient one of the Providence bronze, with modifications to suit the different proportions. The work was done at the Metropolitan Museum.

The technique and surface of the Providence bronze are also indicative of antiquity. On the neck are three small rectangular insets, repairs for defective casting, two of which are no longer flush with the surrounding parts but protrude beyond them, evidently owing to the action of time. The surface of the lips, the pupils, and part of the fillet were separately inlaid and have now disappeared, except for a small piece of the silver fillet; the bronze where the silver fillet covered it is left rough. The surface of the figure is dark and shiny, with crusty, malachite green patches, which are hard and strongly adhering, and traces of red copper oxide. In general appearance the bronze resembles that of some examples from Pompeii and Herculaneum—and this is the provenance surmised by S. Reinach also on external grounds. For the statuette can be traced back to before 1822 since it appears with its restored left arm in a painting by Firmin Massot and F. Ferrière now at Geneva.¹ It was previously in the possession of a Russian nobleman who, as S. Reinach pointed out, presumably made the usual grand tour of Europe at the end of the eighteenth century and so visited also Naples where bronzes from the near-by excavations must have been easily available. By discrimination and good luck he acquired an outstanding piece.

A provenance of Pompeii or Herculaneum would tally also with the style of the figure. It is clearly of Roman workmanship—slender, elegant, accomplished, and rather hard in execution. The motive is similar to that of the Pourtalès bronze in the British Museum,² though the stance is reversed. The girl is evidently not wringing the water from her hair as in the familiar Aphrodite Anadyomene type, but perhaps lifting a necklace to put it round her neck. Since Pliny³ mentions among the bronze works by Praxiteles a woman putting on a bracelet or necklace (pselumenen) and one holding a garland (stephanusam), it is possible that we have in the Providence statuette a Roman copy of such an original on a reduced scale.⁴ The stance is not unlike that of the Cnidian Aphrodite; and the motive is preserved also in other statuettes⁵ and so must go back to a famous original.

And now let us turn to the Haviland bronze. All we know of its history is that it was bought about 1880 by the French sculptor Paul Dubois from a dealer who had acquired it from the collection of Joly de Bammerville. After Dubois' death in 1905 the statuette was acquired by Charles Haviland, the well-known china maker of Limoges. At his death in 1922 it was sold at auction in Paris, but redeemed by the family; it was sold again in June 1932 and again redeemed. A few months later it was bought by Joseph Brummer and then passed into the possession of the present owner. The condition is not so good as that of the Providence statuette. The bronze is considerably corroded, with large swellings in several places; the surface is greyish green and quite lustreless. The eyes are inlaid with white glass paste (Fig. 1), which has become disintegrated; the iris was in a different material and has disappeared.

¹ *Gazette des Beaux Arts*, XXVIII, 1902, p. 336.

² Walters, *Select Bronzes*, pl. 45.

³ *N.H.* XXXIV, 70; cf. also Tatian, *Δόγος πρὸς Ἑλληνας*, 56, p. 122.

⁴ Cf. Reinach, *R. Arch.* XXXV, 1899, p. 374, and the references there cited.

⁵ Besides the Pourtalès bronze above mentioned, cf. especially the large bronze statuette (37 cm. high) from Tripolis, Syria, published by Lafaye, *Bulletin de la Société nationale des Antiquaires*, 1897, pp. 264 ff. and the bronze statuette in Cassel, *Jb. Arch. I.*, IX, 1894, p. 248, both with the weight on the left instead of the right leg; cf. also Reinach, *Répertoire*, II, pp. 341 ff. *passim*.

In spite of the mutilated condition, the beauty of the statuette is overwhelming. The lovely curves of the girlish figure, the soft, delicate flesh, the gentle expression, have been rendered with the sensitiveness of a great artist. The execution is clearly Greek, of the fourth century B.C., for it has the delicacy and restraint of that



FIG. 1.—DETAIL OF THE STATUETTE ILLUSTRATED IN
PLATE VII A

period. From it we can obtain a better realization of the subtle refinement of such works as the Cnidian Aphrodite than from the host of direct Roman copies we possess.

In comparing the Haviland bronze with the Providence one we note a difference not only in execution but of composition. There are first such obvious variations as the different position of the right arm which is held slightly higher in the Haviland bronze than in the Providence one; the more elongated proportions of the Providence bronze;¹ the presence there of a bracelet on the right wrist which does not appear on the Haviland bronze. And then there is the difference in conception. In the Haviland bronze the forms are gentler in their transitions than in the Providence one, more refined, less dramatic; and the figure is plumper, thicker, rounder, and so less elegant. The Providence bronze clearly has behind it the restless Hellenistic conceptions which were inherited by Roman artists, whereas in the Haviland bronze we still feel the quiet restraint of the classical age.

These similarities and differences may be explained by supposing either that the Providence statu-

¹ The actual difference in height is 1.3 cm. (about $\frac{1}{2}$ in.).

and fourth centuries B.C. is sufficiently attested by the Greek marble statuettes in Venice, of some of which there actually exist life-size Roman reproductions.¹ Instances of the preservation of both original and copy or of copies of different periods going back to the same original are of course exceedingly rare. A not dissimilar case is the late fourth-century relief of a Horseman in the Metropolitan Museum² and the two Roman reproductions in the Barracco³ and the Medicanelli Collections.⁴ Here, too, the difference is not only in style but in details of composition,⁵ as well as in dimensions.⁶ Since reductions in ancient times were not made mechanically with the pointing process, like the full size copies of Roman date, but free hand, slight changes in composition would be only natural.⁷ A comparison between the little terracotta Diadoumenos recently acquired by the Metropolitan Museum⁸ and the full-size copies in Athens, London, and Madrid will likewise bring out important differences. The reduced scale therefore sufficiently accounts for the variations in the composition of the Providence and Haviland bronzes.

We may surmise, then, that the two statuettes are copies—one contemporary, the other of Roman date—of an outstanding sculptural work of the time of Praxiteles, possibly a bronze statue by Praxiteles himself.

Nothing could be more illuminating for our understanding of fourth century art than a study of these two beautiful bronzes, each eloquent of the ideals of its time.

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¹ Lippold, *Kopien und Umbildungen griechischer Statuen*, pp. 9 ff.

² E. Robinson, *B. Metr. Mus.*, III, 1908, pp. 6 ff., fig. 1 and p. 61; Richter, *Handbook of the Classical Collection* (1930), pp. 273-275, fig. 193; Brunn-Bruckmann, 729; S. Reinach, *Burl. Mag.* XLV, 1924, pp. 4-15 (where illustrations of all three reliefs are given).

³ Helbig, *Collection Barracco*, pl. 52, p. 42; S. Reinach, *loc. cit.*

⁴ Hübner, *Annali dell' Inst.* XXXIV, 1862, pp. 101-103, pl. F; S. Reinach, *loc. cit.*

⁵ These have even led F. P. Johnson to suspect the antiquity of the New York relief; cf. *A.J.A.* XXXVI, 1932, pp. 276 ff., and pp. 284-285.

⁶ Height of Barracco relief: 15 inches (38 cm.); of Medicanelli relief 20 inches (50 cm.); of New York relief 18 inches (45.7 cm.).

⁷ On this subject cf. Lippold, *op. cit.*, pp. 147 ff.

⁸ *B. Metr. Mus.*, XXVIII, 1932, p. 251.

THE LAST INVENTORY OF THE PRONAOS OF THE PARTHENON

THE restoration of the last inventory of the Pronaos of the Parthenon (*I.G. I², 255a*), upon which depends much of the argument in recent studies of the treasure records of the Acropolis¹ and of the expense accounts of the Erechtheum,² has received a new orientation as the result of a discovery by A. C. Johnson.³ It now becomes evident that Kirchhoff⁴ in saying that the "Stellenzahl grösser gewesen zu sein scheint" than in the upper inscriptions on this same stone, must have misinterpreted his notes; for, as Johnson shows, it is rather the spacing that is greater, so that the number of letters must be less than the fifty-three required in each line of *I.G. I², 254-255*. Hence the traditional restoration of *I.G. I², 255a*, with sixty-two letters per line, as adopted by Kirchhoff and Hiller von Gaertringen in both editions of the *Corpus*, and the alterations with sixty letters which we had preferred, must alike be discarded.

Johnson has argued, furthermore, that the date of 405/4 B.C., to which *I.G. I², 255a* would seem to belong on the basis of the tribal cycle of the secretaries of the treasurers, must now be rejected; and he returns to the date 407/6 B.C. which had been accepted before the discovery of this tribal cycle. His argument is based on a mathematical calculation that each line must have contained forty-seven letters, and that the only archon whose name could fit this space was Antigenes (407/6 B.C.). Our present purpose is to show that, with the shorter form of the lines, the evidence for assigning the inventory to the archonship of Alexias (405/4 B.C.) is even stronger than before.

The mathematical calculation which seemed to require forty-seven letters per line was based on very accurate dimensions and notes, together with a squeeze, supplied for the purpose by Waage. But this material, which Johnson kindly placed at our disposal, contains the statement that the measurements were taken "from the left of the left-most to the right of the right-most (preserved) letter." Therefore the average spacings, obtained in dividing these dimensions by the included number of letters, contain an inherent fallacy because the number of interspaces is one less than the number of letters. Adding such an interspace (0.003 m. in the upper inscriptions, lines 280-321, and 0.004 m. in *I.G. I², 255a*, lines 323-331) to each of Waage's dimensions, the average spacings become 0.00905 m. instead of 0.0089 m. in the former, and 0.01065 m. instead of 0.0104 m. in the latter. These discrepancies are minute, to be sure; but when multiplied they are sufficient to make a difference of one letter in the width of the stone. Thus in the upper inscriptions the fifty-two spacings of 0.00905 m. would require 0.471 m., the fifty-third letter 0.006 m. more, and the left margin 0.015 m., a total of 0.492 m., so that with the mean width of 0.507 m. the right margin would likewise be 0.015 m. Likewise in *I.G. I², 255a*, where the width of the slightly tapering stone (0.505-0.51 m. in the upper part)

¹ Ferguson, *Treasurers of Athena*, 1932, pp. 10-14.

² *A.J.P.* 1932, pp. 274-277.

³ Dinsmoor, *A.J.A.* 1932, pp. 149-151.

⁴ *Abh. Berl. Akad.* 1864, p. 50.

seems to have increased to 0.515 m.,¹ we may allow 0.015 m. for each margin at left and right, and 0.006 m. for the extra letter, the remaining 0.479 m. permitting forty-five spacings of 0.01065 m. In other words, between the margins given by the upper inscriptions, the lines of *I.G. I², 255a* could have had only forty-six letters.²

As Johnson notes, the last preserved letter of line 323 (the fourth letter of Καλλ-) falls directly under the last preserved letter of line 321 (the first H of the weight). In line 321 the right margin was attained with seven more spacings of 0.00905 m., requiring 0.06335 m. as measured from the right side of the last preserved letter. Consequently line 323 must have been completed with six more spacings of 0.01065 m., requiring 0.06390 m. This coincidence would seem to prove that the right margin was uniformly 0.015 m. wide in all three inventories on this stone; and the same would have been true at the left edge. In order to employ more than forty-six letters, it would be necessary to intrude upon one or the other of these margins to the extent of one full spacing of 0.01065 m., reducing the margin to 0.005 m., a solution that is hardly credible. We may adhere, therefore, to the total of forty-six letters attained above.

With this arrangement, it seems clear that the name of Antigenes cannot be restored in line 323, which would then have required at least forty-seven letters. With only twenty-one spaces before ἀρχσαντες, we must insert a shorter name, such as those of his successors, Kallias and Alexias; a date later than 404 B.C. is absolutely impossible. But Kallias in turn seems to be unsuitable, being specifically mentioned elsewhere (line 329). We prefer Alexias, therefore, and his name would exactly fit the space of twenty-one letters (restoring *hoi ἐπὶ Ἀλεχσίο ἀρχοντος* or *τὰ τῆς θεῶ *hoi ἐπὶ Ἀλεχσίο**).³ The date 405/4 B.C., which is demanded by the tribal cycle on account of the secretary from Leukonoe, is thus confirmed.

It now remains to complete the restoration of the other lines in agreement with this date, and in accordance with the revised number of letters. The following version (Fig. 1), which demands forty-six letters in each line, will best meet the conditions.

The total number of treasurers listed for 405/4 B.C. was obviously six rather than ten. In view of what had happened in Athens both between Hekatombaion 28th,

¹ We had calculated 0.512 m. on the basis of Waage's measurements; Meritt now independently estimates that the width at the level of *I², 255a*, would have been 0.515 m., which I have adopted. This difference hardly affects the conclusion.

² It may be noted that Waage, who furnished the data for Johnson, and likewise Meritt, who kindly checked various points for this article, both calculated a width of forty-six letters in the presence of the stone itself. Meritt writes: "My measurements give 46 letters to a line. The width of the stone across the top is 0.505 m.; about halfway down it is 0.51 m. The width (estimated, on account of taper) across *I.G. I², 255a* is 0.515 m. The appropriate deductions for margins, right and left, are 0.01 and 0.015 m. The actual margins in both cases were 0.015 m., but 0.005 m. of the right-hand margin must be counted as belonging with the last letter on the line. So to find the width of stone used for the actual inscription, I subtract 0.025 m. from 0.515 m. The result is 0.490 m. By measurement in *I.G. I², 255a*, eighteen letters occupy 0.192 m. Ergo, $18 : 192 = x : 490$ and $x = 46$." On the other hand, Sterling Dow independently estimates a total width of only 0.506 m.; and, with a slightly larger average spacing, 0.0107 m., would obtain only 44 intervals or 45 letters. Most conclusive, however, is Meritt's test, measuring 0.255 m. (half of the width) from the right edge and finding that the axis thus established falls between two letters (as between P and X of ἀρχσαντες), and with 23 letters at the right of the axis there must have been 23 at the left, or 46 in all.

³ The second of these restorations is undoubtedly preferable to the first, which places ἀρχοντος and ἀρχσαντες in improbable juxtaposition.

405 B.C., and Munychion 16th, 404 B.C., and during the internal struggles which issued in the establishment of the government of the Thirty, it is not surprising that this board fell four short of its full complement. The first name was clearly Kalli-; the ι , which Johnson omits, is partly preserved on the stone. The second treasurer, Philippos of Prospalta, is now seen to be different from the treasurer from Probalinthos in *I.G.* II², 1655; the fourth letter of the demotic is clearly σ , as Johnson pointed out.¹ Thus the second treasurer belonged to Akamantis (V), and the fifth, an Eleusinian, to Hippothontis (VIII); if the names were listed in official tribal order, as seems probable, the third would have belonged to Oineis (VI; restoring [$\Delta\chi\alpha\rho\rho$] $\epsilon\upsilon\varsigma$ or [$\Lambda\omicron\upsilon\sigma\iota$] $\epsilon\upsilon\varsigma$), the fourth to Kekropis (VII; restoring preferably $\Phi\lambda\upsilon\epsilon\upsilon\varsigma$ because of the scant space; cf. *Prosopographia Attica*, 10019). According to the tribal order, furthermore, the sixth treasurer should belong to Aiantis (IX) or

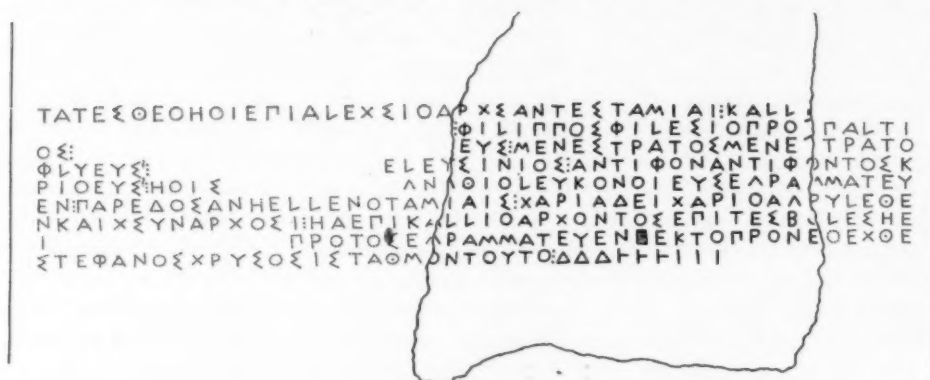


FIG. 1

Antiochis (X). He can hardly be the son of the Orator, Antiphon² of Rhamnous; but he may be the father (*Prosopographia Attica*, 1300) of Timokrates of Krioia (*Pros. Att.*, 13772), tamias at some time before 353 B.C. (Demosthenes, XXIV).

The secretary of the treasurers,³ of the deme Leukonoe and so of the tribe Leontis (IV), being firmly established in 405/4 B.C. by the restoration of the archon's name and by the fact that the entire inscription can be restored with forty-six letters in each line, confirms the orderly rotation of the tribal cycles of the secretaries from 411 to 386 B.C.⁴ or even to 358 B.C.⁵

In line 328, the traditional restoration [$\eta\epsilon\lambda\lambda\epsilon\nu\omicron\tau\alpha\mu$] $\iota\alpha\iota\varsigma$, which is regular without the article, would still fit the space. One might possibly regard this restoration as subject to the criticism that, since this record was plainly drawn up after the treasurers Kalli- and his colleagues had completed their term on Hekatombaion 28th,

¹ On the effect of this reading upon the date of the Erechtheum account *I.G.* II², 1655, an additional note will be published separately.

² To Professor Meritt, who examined *I.G.* I², 255a, for us at Athens, we owe the readings of the last preserved letters of lines 323 and 326, and the confirmation of Johnson's readings of the last preserved letter of line 324 and the first of line 327.

³ The patronymic [$\Gamma\upsilon$] $\alpha\theta\iota\omicron$ in line 327 is given only *exempli gratia*; an alternative would be [$\Lambda\gamma$] $\alpha\theta\iota\omicron$.

⁴ Ferguson, *Treasurers*, p. 9.

⁵ Dinsmoor, *A. J. A.* 1932, p. 165.

404 B.C. (as shown by the aorist participle [ἀ]ρχσαντες),¹ a transmission of material to the Hellenotamiae at this date would be an anachronism. For the latter board had undoubtedly gone out of existence soon after the fall of Athens or, at the latest, in the summer of 404 B.C. It must be noted, however, that this record is not the ordinary *paradosis* made by the treasurers to their successors on their last day of office; in that case they would have been designated as *tamiai* simply, not as *ex-tamiai*. This being so, the transfer of *ex-votos* to the Hellenotamiae must have antedated the moment of the drafting of the record, since it can have occurred only while the treasurers were in office. Consequently the time of the transfer is defined solely by the limits of the term of office of Kalli- and his colleagues, *i.e.*, it lies between Hekatombaion 28th, 405 B.C. and Hekatombaion 28th, 404 B.C. The transaction can belong before Aegospotami quite as well as after it. It follows that the Hellenotamiae Chariades and his colleagues were the contemporaries of Kalli- and his associates. Their term also expired on Hekatombaion 28th² and when they received the *ex-votos* they were obviously still in office. They were the last board of Hellenotamiae. In all probability the office simply went out of existence with the dissolution of the Delian Confederacy to which it had primarily belonged. The conclusion of the treaty of peace with Sparta (before Munychion 16th, 404 B.C.), in which Athens ceded to the victors all the tributary cities, put it out of action. We should, therefore, date the transaction recorded in our document earlier than Munychion 16th.

The chairman of the Hellenotamiae, Chariades of Agryle, was undoubtedly, as has always been assumed, the same as the *epistates* of the Erechtheum in 409/8 B.C. (*Pros. Att.*, 15310)³ whose father was a victorious choregus in 458/7 B.C. (*Pros. Att.*, 15333); the alternative demotics 'Αγγελέθεν or 'Αγκυλέθεν were never associated with these names.

With this construction our record is a sort of historical postscript appended to the inventories of the Pronaos to account for the subtraction of *ex-votos* made to finance the last treasury-year of the war.

In Kallias' archonship, on the occasion of the crisis of Arginusae (Hekatombaion 1 to 28, 406 B.C.), all the votive offerings or, at least, all suitable for minting, were assembled in the Hekatompedon from the Pronaos, Parthenon, Opisthodomos, Ancient Temple, and elsewhere. Consequently no inventory of articles in the Pronaos could have been made by the treasurers for 407/6 and 406/5 B.C. Since all the *ex-votos* which had been kept there were mintable, there was nothing in the Pronaos for them to catalogue. Hence, as is proper, the last inventory of the Pronaos, the one which precedes immediately our record, was drafted by the treasurers for 408/7 B.C. When *καὶ χσυνάρχουσι* is restored in line 329 two spaces alone remain before *ἐπὶ*. The relative pronoun *há* seems inevitable (*τά* is the only thinkable alternative). It should be remarked that the symbol inserted in the *Corpus* between [ἐ]γγραμμάτευεν and ἐκ τοῦ Πρόνε[ο] is, as noted by Waage, not a

¹ In a later inventory, that of 367/6 B.C. (*I.G.* II³, 1428), ἀρχάντων is employed as a substitute for πορτέων, with reference to the treasurers who had gone out of office at the end of the preceding year.

² Meritt, *Athenian Financial Documents of the Fifth Century*, p. 126; cf. Ferguson, *Treasurers*, p. 3, n. 1.

³ Compare Kirchhoff, *I.G.* I¹, 140, comment.

mark of punctuation but of an erasure. Judging from the indications of the squeeze we may conclude that the stonemason inscribed the ϵ of $\epsilon\kappa$ twice. He may have committed a dittography, correcting it subsequently by an erasure; or he may have spoiled the ϵ at his first trial through the flaking of the stone when he was cutting the middle horizontal bar of the letter. We have, therefore, no reason whatsoever for disconnecting $\epsilon\kappa$ τῷ Πρόν[ε]ο and the following verb from the clause beginning with $\acute{\eta}\alpha$. The restoration of line 331 is epigraphically simple. Στέφανος χρυσός Ι, taken intact from the preceding inventories of the Pronaos, designates the only article with the stated weight, 33 drachmas, 3 obols. It fills the space exactly.¹ Four spaces remain at the end of line 330 for the verb of which $\acute{\eta}\alpha$ is the subject. *Εχθε is suggested.²

It thus appears that the gold crown was the only one of the *ex-votos* taken from the Pronaos in 406/5 B.C. which the treasurers of 405/4 B.C. handed over to the Hellenotamiae. It was distinguishable from the rest through being made of gold. All the others were of silver. What happened to them? There are two possibilities: (1) they remained unminted in the Hekatompedon at the time this record was drafted; (2) they were handed over for minting by the treasurers of 406/5 B.C. The first alternative is improbable both in itself and because of the lack of a rubric $\epsilon\kappa$ τῷ Πρόν[ε]ω in the post-Eukleidean inventories to correspond to the rubrics there found, $\epsilon\kappa$ τῷ Παρθενῶνος, $\epsilon\kappa$ τῷ Ὀπισθοδόμῳ: the second involves the consequence that the inventories of the Pronaos were closed without a specific notation covering the final disposition of the votives of silver. None the less it is probably preferable. It is intelligible that the treasurers of 405/4 B.C. concerned themselves only with their own transactions.

It might be thought that notwithstanding the plural [ἡλλανοταμ]αῖς in line 328, the phrase καὶ χσννάρχουσι was omitted in line 329. In developing this possibility, for which he cites as a parallel *I.G.* I², 324, l. 18 (στρατεγοῖς περὶ Πελοπόννησον Δε[μ]οσθένει Ἀλκισθένης Ἀφιδ[ναῖοι]), Professor Meritt has furnished us with an attractive restoration of the gap in lines 328–329, Ἀγ[ρυλ]εῖ καθάπερ ἐφέφεστο ἐπὶ Κ[α]λλίω, which could, he suggests, be followed up by inserting κατελείφθε στέφανος Ι σταθμ[όν] in the final *lacuna*. In this way we could adhere to the interpretation of the document made by Kirchhoff, and thus escape the difficulty of accounting for the ἀργυρώματα. The adjectival form of the demotic, Ἀγρυλεῖς, is found in *I.G.* III, 708, and is inferable for the fifth century, perhaps, from the plural forms, Ἀγρυλεῖς,

¹ In Johnson's text two spaces have to be filled with punctuation marks. In his corrected text (*A.J.P.* 1932, p. 392) one such space is given to a mark of punctuation. Punctuation marks are found in the inventories both after and before and after figures; but in this record, which is carefully cut and *stoichedon* throughout, these marks are set in the intervals between the letters. It should, perhaps, be pointed out that the restorations of lines 328 and 331 confirm the conclusion reached by the measurements of the stone that the lines had 46 letters each.

² Ἀγω, in the sense of "take," "carry," or "convey," appears regularly in the Attic inscriptions with "things" as its object (cf. Index to *I.G.* I², s.v.). ἤχθη is, of course, a good Attic form (cf. Xen., *Anab.* VI, 3, 10). The participle of the first aorist passive of ἐλάγω (with the termination restored) appears in *I.G.* II³, 1686, l. 34, a document prepared likewise by the treasurers of 405/4 B.C. Ἐλθε is also a possibility. Ἐρχομαι is used with an inanimate subject (incapable of self-motion) both by Homer: cf. *Il.* XIX, 191: ἔφρα κε δῶρα ἐκ κλισίης ἔθρηναι, and in Attic Greek: cf. Antiphanes, *fr.* 174 (Athen. 471C): ὡς δ' ἐδείκνυσαν — — καὶ Διὸς Σωτήρος ἦλθε Θερσίλειον ὄργανον. We owe this reference to the kindness of Professor C. B. Gulick.

Ἀγρυλῆς, in *I.G. I²*, 398. The parallel form, Ἀγκυλεῖ, is found in *I.G. I²*, 301, l. 24. The phrase καθάπερ ἐφσέφιστο is in the best Attic inscriptional style (cf. *I.G. I²*, 91, l. 4; 39, l. 42; 108, l. 43; 154, l. 13). But the omission of καὶ χουνάρχοσι is quite exceptional and hardly explicable except as a scribal error. We hesitate to assume a lapse of this sort. It could be justified only if there were no acceptable alternative. The omission of χρυσὸς is, we believe, hard to defend. There was no reason of space for its omission. Elsewhere in the inventories of the Pronaos it is invariably present in the description of this crown. Without it the weight would be meaningless.

Johnson (*loc. cit.*) suggests that the record *I.G. I²*, 255a was left incomplete—that it was begun with στέφανος χρυσὸς I and not carried farther. But in that event we should expect it to begin with the first item in the preceding inventories (φιάλαι ἀργυραὶ ΗΔΔΙ), instead of with the seventh. It seems to us that the place of *I.G. I²*, 255a on the stone (10 cm. after the completion of *I.G. I²*, 255, 7 cm. before the break in the *stele* at the bottom), and the wider spacing of its letters, show that the stone-cutter never intended to inscribe more than he did. The prepared surface of the stone was ample for an entire inventory.

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HADAD AND ATARGATIS AT PALMYRA

PLATE IX

ONE of the most interesting results of the last German expedition to Palmyra (1917) was the discovery by Prof. Th. Wiegand of the foundations and of some architectural fragments of a hitherto unknown large and beautiful temple to the south of the main street of Palmyra and to the east of the theatre. The architectural features of the temple have been adequately described by Wiegand and Wulzinger. They believe the temple to belong to the early second century A.D., while Wiegand points out some features both in the orientation of the temple and in its architecture which suggest an earlier date, probably the first century A.D.

No inscriptions or sculptures were found in the temple. The name of the god or goddess to whom it was dedicated is, therefore, unknown. The fact, however, that Wiegand recognized in the southwest corner of the pediment the end of the body of a fish makes him think that the temple might have been dedicated to the *Θεὰ Συρία*, Derketo or Atargatis, the great mistress of the North Syrian lands.¹

It is well known that Atargatis was worshipped at Palmyra. She appears often on the coins of Palmyra seated on a lion; or it is her sacred animal, the lion, accompanied by a crescent, which appears on the coins. One inscription mentions her. It is probable that she was regarded by the population as the Gad, the Tyche of Palmyra, since the Tyche of Palmyra appears accompanied by a lion on the famous fresco (now in the Yale Art Gallery) from the tribune of the sanctuary of the Palmyrene gods at Dura.² Still more important is the fact that Atargatis plays such an important part in the life of Dura, which city was the partner and associate of Palmyra on the Euphrates. A sanctuary dedicated to her was fully excavated by the Yale expedition in 1929-30, and another in which she was worshipped under the name of Artemis Azzanathkona was discovered in 1931-32. All evidence points, therefore, to the idea that after Bel, Jarhibol and Aglibol, the gods of Palmyra's haram, after Malakhbel and Baalšamin, Atargatis, with her consort Hadad occupied probably the third place in the composite and heterogeneous religious life of Palmyra. Next to her and to Hadad come the two caravan-gods Arsu and Azizu, whom I have discussed in a special paper.³

However, the inscriptions and the few bas-reliefs with the figures of the gods worshipped at Palmyra do not furnish the most abundant source of our information on the religious life of the desert city. Nor is it the small and poor coins of Palmyra. Our richest information in regard to the religion of Palmyra we derive from the so-called tesserae, tokens of clay (very rarely of bronze) which were distributed in hundreds to the citizens of Palmyra on various occasions and which served probably as tickets of admission to various religious performances, e.g. funeral and sacred

¹ *Palmyra. Ergebnisse der Expeditionen von 1902 und 1917*, Berlin, 1932, pp. 108 ff.

² P. V. C. Baur, *Excavations at Dura-Europos*, III, Prel. Rep., 1932, pp. 137 ff.; cf. J. G. Février, *La Religion des Palmyréniens*, 1931, pp. 135 ff. and M. Rostovtzeff, *Caravan Cities*, 1932, pp. 131, 138 and 151.

³ M. Rostovtzeff, "The Caravan-Gods of Palmyra," *J.R.S.* XXII, 1932, pp. 107 ff.

banquets. They were also used as tokens in the distribution of foodstuffs and sportulae. Almost all of these tesserae bear on one or on both sides figures of men and images and symbols of the various gods worshipped at Palmyra, and inscriptions in the Palmyrene script which generally give the name of the person or association issuing the tesserae and sometimes the name of a god or a religious formula.

Strange to say, these tesserae have never been collected and published in full by a competent scholar. Hundreds of collections of these tesserae both private and public exist in Europe, the Near East and America, and scores of articles have been written on them by the Semitologists in order to publish and to illustrate their inscriptions. Very little attention, however, was paid to the figures reproduced on them which, as I have said before, give a representative gallery of gods worshipped in Palmyra and of various religious rites and utensils connected with the cult of these gods.¹

Among the gods represented on the tesserae Atargatis and Hadad loom large. In this short note I wish to draw the attention of scholars interested in the history and religion of Palmyra to some of these tesserae which I happened to find in the various collections of Palmyrene tesserae I inspected and in the many publications devoted to them. It is not my intention to give a full catalogue of them, but I can give some reproductions of tesserae which are either unknown or published in some little accessible books and articles. Let me first give a catalogue of the most interesting tesserae related to Atargatis and Hadad, and afterwards present some remarks concerning their interpretation.

I. ATARGATIS ALONE

1. Woman seated in a chair between two lions, the head and bust in front view, the legs turned slightly to the left (Pl. IX, 1). Her hair is arranged in the fashion typical for the Roman empresses of the late second century A.D. She wears earrings in her ears, a necklace, and a kalathos on her head. Her dress is Greek: chiton and chlamys. Her feet rest on a foot-stool. With her right hand she is leaning on a sceptre of which the upper end has the form of an egg; in her left is a bunch of flowers (?). To her left is seen a bust of a young man wearing a radiate crown, and beneath this bust the sun (or star) and the crescent. To the left a veiled bust of a woman.

Lump of clay (not a regular tessera). 0,05-0,045. Found at Palmyra.

British Museum, No. 102803.

M. Rostovtzeff, *Caravan Cities*, 1932, Pl. XXI, 1 and p. 151.

2. The right part of the surface of the tessera is occupied by a seated figure of a woman, the head in front view, the legs to the left. On her head, a kalathos. With her right hand she is leaning on a sceptre. To the right, a standard (?). Before her, a large figure of a fish standing on its tail. The left part of the surface of the tessera is occupied by a Palmyrene inscription which gives the names of Maliku and Male.

¹ The bibliography of the Palmyrene tesserae will be found in the *Répertoire d'épigraphie sémitique* and in the recently published vol. of *C.I.S.* (III, 2).

R. Lion to the left assailing a stag. Above to the right the solar rosette and the crescent.

Square. 0,015-0,02.

Coll. of Dr. Lamer, Leipzig.

M. Lidzbarski, *Ephemeris für semitische Epigraphik*, III (1909-1915), p. 34, No. E, Pl. V, 3; *Répertoire d'épigr. sémit.*, No. 1694.

3. Goddess standing in front view dressed in a peplos and a chiton leaning with her right hand on a spear or sceptre and holding in her left hand a bunch of flowers (?) (Pl. IX, 3a). To the right and to the left, high thymiateria or vases. Three tongues of flame or three reeds are shown on the tops of these thymiateria which are very similar to those represented on the well-known Conon fresco of Dura.

R. Zebu couchant left (Pl. IX, 3b). Above it, a crescent and a star; below, two altars. To the right, a cypress tree.

Square. 0,022-0,016.

British Museum, No. 100669, etc.

M. Rostovtzeff, *Caravan Cities*, 1932, Pl. XXI, 3 and p. 151.

II. HADAD ALONE

4. Man dressed in chiton and chlamys and wearing a tiara on his head, seated in a chair in front view (Pl. IX, 4a). His right arm is stretched to the right, his left bent, the hand resting on his lap. To the right and left, bulls in front view. The space on either side of his head is occupied by worn and indistinct Palmyrene inscriptions.

R. Large solar rosette between two crescents and stars (?). Beneath, a small figure of a sheep and a larger figure of a zebu, both facing right. Under the head of the zebu in the right corner, a disc (Venus star?).

Square. 0,022-0,018.

Paris, Cabinet des Médailles.

P. V. C. Baur, *op. cit.*, p. 138, Pl. XIX, 2.

III. HADAD AND ATARGATIS

5. Man dressed in a kaftan (jacket), or a cuirass and shoes, standing in front view; his hair is long and he wears a kalathos (Pl. IX, 5a). He is holding in his lifted right hand a double axe; in his left, which hangs down, is an indistinct object, perhaps the hilt of his sword. To the right, a crescent and star (?). Border of dots.

R. Woman seated on a throne-like chair in front view, leaning on a sceptre (Pl. IX, 5b). Her hair is long and she wears a kalathos. To the right and left of the chair, lions in front view. To the right of her head, a crescent, to the left, a star. Below, a Palmyrene inscription in two lines which the R. P. J. B. Chabot was not able to decipher. Border of dots.

Square. 0,017-0,012.

Coll. of Mme. la Vicontesse d'Andurain at Palmyra (unpublished).

6. Man standing in front view, dressed in a cuirass which reaches below the knees, in trousers and high boots. He has long hair and wears a kalathos. With his

right he leans on a spear, with the left he holds the hilt of his sword. To the left and right, Palmyrene inscriptions. According to the R. P. J. B. Chabot, one gives the name Mokimu, the other probably another proper name.

R. Woman seated in a chair in front view (Pl. IX, 6b). She has long hair, earrings, and a kalathos and is leaning with her right hand on a sceptre (egg-shaped end), holding in the left a bunch of flowers or ears of corn. To the right and left of her chair two lions (?).

Square. 0,018-0,019.

Paris, Cabinet des Médailles (former Coll. Fröhner).

M. Rostovtzeff, *Caravan Cities*, 1932, Pl. XXI, 2 and p. 151.

7. Man stretched on a couch to the left, head in front view with a tiara on it. To the left, a krater and a star. Under the couch five busts in front view. Palmyrene inscription to the left: "Athe-aqab the great (or the elder)."

R. Woman standing in front view. She has long hair, earrings, a kalathos or a mural-crown. She is dressed in chiton and chlamys and leans with her right hand on a sceptre, holding in her left a bunch of flowers (?). To the right a man with long hair and kalathos stands in front view. He is dressed in a long kaftan or cuirass, trousers and boots. In his right hand, a double axe; with his left, he is strangling a lion which jumps at him. Between the two, a burning altar and above, the solar rosette. To the right of the man, a rosette. Below, a Palmyrene inscription.

Shaped as an aedicula. 0,033-0,030.

Museum of the Syrian Protestant College at Beirut.

M. Lidzbarski, *Eph. für sem. Epigr.*, III (1909-1915), p. 152, No. A, Pl. XII, 1.

8. Four heads in front view disposed crosswise (Pl. IX, 8a): two bearded, with long hair, and wearing the kalathos; the other two female, with long hair and the kalathos.

R. Two jackals seated facing each other; behind each one of them crescents and stars (Pl. IX, 8b).

Square with concave sides. 0,016.

Collection of Mme. la Vicontesse d'Andurain at Palmyra (unpublished).

I may add to this catalogue another curious tessera.

9. Man stretched out to the left on a couch, beneath a vine, head in front view with tiara. Below, remains of a Palmyrene inscription.

R. Krater and beneath, an impression of a Greek seal showing a Nike flying right. To the left, a figure of a man in a Phrygian cap turned to the right; he is bearded and has long hair. He wears a cuirass, trousers and shoes. In his right hand, a thunderbolt (?); in his left, perhaps a double axe. Beneath his right hand, a rosette. To the right, a young man wearing a bashlyk, a tunica and baggy trousers. The right hand is outstretched; on his left side, a dagger.

Form of an arch. 0,035-0,030.

Collection of Mme. la Vicontesse d'Andurain at Palmyra (unpublished). (Pl. IX, 9.)

It is evident that the goddess seated on a chair between two lions in our Nos. 1, 5 and 6, represents Atargatis. In all probability these three tesserae reproduce the

cult-statue of her Palmyrene shrine. The same figure is without doubt represented on our tessera No. 2. The sacred animal of Atargatis, the lion, appears here attacking a stag. More difficult is the interpretation of the female figures of our Nos. 3 and 7. The two figures are identical. On No. 7 the goddess appears associated with Hadad, and on No. 3 we find on the R, the sacred animal of Hadad, the bull. It is very probable, therefore, that the standing figure of the goddess represents Atargatis rather than Allat.

Hadad can be easily recognized on No. 4. It is well known that bulls are his sacred animals. Nor is there any doubt that the god associated with Atargatis on Nos. 5 and 6 is Hadad. On No. 5 he holds in his right hand the double axe, his regular attribute. The same double axe appears in his right hand on No. 7, where he is struggling with the lion, the animal of his divine consort.

It is interesting to see that on all the tesserae where Hadad is shown standing he wears a military dress: long cuirass, sword, and in one case, the lance. His military uniform is not Roman. The long cuirass, the trousers and the shape of the sword are not Roman. It is interesting to note that the same military god wearing a non-Roman uniform is coupled on one tessera with the caravan-god Arsu, and on another with the sacred animal of Hadad—the bull. The same god in the same uniform appears on a third tessera not accompanied by his bull.¹

Hadad as a military god, wearing a military uniform appears on the Palmyrene tesserae for the first time. It is well known that in Roman times many of the gods of the Syrian Pantheon appear in military dress: I recall the great triad of Palmyra, Jupiter Heliopolitanus and the famous Jupiter Dolichenus. These gods as they appear both in sculpture and painting are dressed and armed in the Roman fashion. At least the cuirass which they wear is always Roman. Quite different is the case of Hadad, the ancestor of both Jupiter Heliopolitanus and Dolichenus. On the Palmyrene tesserae and especially on the recently discovered cult bas-relief of Aphlad (son of Hadad?) of Dura, his cuirass is not Roman. (Cf. my *Caravan Cities*, Pl. XXXII, 1.) Aphlad wears the Hellenistic cuirass, while his Palmyrene relatives wear a kind of long, sleeved jacket, probably of leather, which is neither Hellenistic nor Roman, but probably Parthian. It is, therefore, probable that most of the Syrian gods became militarized earlier than in Roman times. I am inclined to think that it was the Seleucids who gave to the great thunder and sky god his military aspect in order to create a special god whom their Syrian soldiers would worship with devotion and enthusiasm. The Arsacids followed in their track and militarized their Mesopotamian protector—Bel and his consorts. Jupiter Heliopolitanus and Dolichenus might have become militarized later in the time of Roman domination.

It is curious to note the same evolution in Egypt where the gods wearing the military uniform—Heron, Horus, Antaios, etc.—even in Roman times still wear Hellenistic military uniforms.²

In the light of what I have said before about Hadad, Jupiter Heliopolitanus and

¹ M. Rostovtzeff, "The Caravan-Gods of Palmyra," *J.R.S.* XXII, 1932, p. 113, No. 4, and pl. XXVI, 3; XXVII, 4 and 5.

² I am preparing a special article on this subject for the volume in honor of U. Wilcken.

Dolichenus, the tessera No. 9 must be interpreted. The figure to the left in his Phrygian cap, long cuirass, trousers and shoes must certainly be compared with both the figures of Hadad mentioned above and the well-known images of Jupiter Dolichenus.¹ More difficult is the interpretation of the second figure. Is it a woman or a young man? Does the figure wear long wide Iranian trousers or the long chiton? I am inclined to regard the figure not as female, but as male, and wearing the typical Iranian dress and Iranian cap. If I am right, the god—if a god he is—reminds me of some representations of the youthful Mithras.

Let me in conclusion reproduce here a fragment of a bas-relief which probably represents Hadad (his head is a little smaller than life size). The fragment is in the collection of the Vicontesse d'Andurain at Palmyra (Pl. IX, 10).

10. Upper part of a bas-relief. A god is represented as seated in a luxurious chair or as standing before an aedicula. The chair or aedicula is arched, the arch being supported by two pilasters and adorned with akroteria. The back shows a geometric design as if it consisted of pressed leather or intarsia wood. The figure of the god is in front view. He wears long hair, a mustache and beard and is dressed in Greek fashion. On the head is a polos. With his left hand he leans on a sceptre. If the god is not Hadad, he must be Baalšamin.

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¹ The most recent addition to our information on the cult of Jupiter Dolichenus is the bronze plaque found recently near the village Jassen in Bulgaria, G. Kazarow, *Jahresh. d. oest. Arch. Inst.*, XXVII, 1932, pp. 168 ff.

SOME RELIEFS AT BUDAPEST

PLATES X-XVII

They had been recruited in loyal observance of the territorial idea . . . *Drums of the Fore and Aft.*

THE Roman troops in Lower Pannonia, from the time of Trajan until the acceptance of Christianity, enjoyed in their respective religions not only liberty but variety. To this the inscriptions testify, in the *Corpus* and upon the tombstones, and, with them, all the funerary reliefs which have survived without name or means of dating. Some of the monuments are explicit, some symbolic, some mystical. The army of the frontier was made up, in early times at any rate, of divers peoples, but the conditions of garrison life, enhanced by the later policy of recruiting on the ground, gave a kind of unanimity to the sentiment, and a general acceptability to symbols implying sometimes more, sometimes less, of "faith," and hope in the life of the world to come.

Along the Danube from where the river turns south at Vacz to where it turns east above the mountains of Slavonia, the most important detachments¹ were Legio XV Apollinaris; Cohors I Alpinorum equitata; Cohors III Batavorum, who had probably at this time by virtue of local recruiting ceased to be Dutchmen, Castra Batava being indeed simply Passau; Cohors VII Breucorum, who will have been "natives," i.e. Celts; Ala I Thracum; and the Syrian Cohors miliaria—who possessed Roman citizenship—Hemesenorum Sagittariorum equitata. There were, moreover, various Spanish contingents, chiefly from the Asturias, which included Leon and Astorga. As early as A.D. 70 the Spanish Legio VII Gemina² was serving in Pannonia for the second time, and then was sent back to Spain carrying, as some believe,³ along with other baggage, the horseshoe arch, the angle-iron device, and the solar symbols of helix and sunflower, which all figure on Leonese tombstones. These soldiers are supposed to have introduced also into Spain the cult of Mithras, and whatever were the secret uses and superstitions which were to come up again for a moment to daylight in the symbolism of the serpent-involved zodiacal figures above the portal of S. Isidoro of Leon.⁴ In Lambaesis, the principal garrison town of North Africa, a Pannonian born, from Carnuntum, was the prefect of the Legio III Augusta which worshipped Mithras there; there a *signifer* of Ala I Pannoniarum was quartered; and there in the time of Aurelian was worshipped the Syrian Aziz, the *bonus puer* of Kharrae [Harran], as he was at Apulum and Potaissa [Pettau] and in few other places except Intercisa.⁵ A decurion in the same Ala made his contribution to a Mithraic dedication at El Garaa, close to the Numidian frontier, on the very edge of the desert. M. Toutain is indeed quite as certain that the Danube soldiery carried into the rest of Europe the Eastern cults, as was Furtwängler that the legions

¹ *Archaeologiai Értesítő*, XXVI, 1906, 222; *C.I.L.* III, p. 415; Cagnat in Daremberg et Saglio s.v. *legio*; Pauly-Wissowa much fuller s.v., *ala*, *cohors*, *legio*, etc.

² Fita, "Legio VII Gemina," in *Museo Español de Antigüedades*, I, 451, 467; Cagnat, *op. cit.*, 1083.

³ Fita, *op. cit.*, XI.

⁴ Rada y Delgada, *Museo Español de Antigüedades*, VII, 449.

⁵ *C.I.L.* VIII, 2675, 2665, 18025, III 875. See F. Cumont, *Monuments relatifs au culte de Mithras*, I, 260, note 2.

bore to the frontiers and established, in the early empire, the severe and primitive sculpture which was indigenous to Northern Italy.¹

Where now is Budapest stood Aquincum, with a sanctuary of Mithras; dedications² are found also, amongst others, to Deus Invictus, Sol Invictus, Deus Arimanius, to Jupiter Optimus Maximus, to I. O. M. Heliopolitanus, along with those to Herakles and to Dionysus as Liber Pater, to Hercules Augustus, to Aesculapius and Hygeia, to the Genius of Gallienus, and to the flowing Danube, to water nymphs, and one at least comprehensive, "to the gods, goddesses and genii of this place." Only one represents an Egyptian cult. The Emperors involved run from the Antonines through the Severi, with Alexander Severus and his mother the most popular of all, on down the list at least as far as Gallienus.³ Of the fifty-four Aquincum tombstones published by Arnold Schober,⁴ the greater number may be dated, if at all, in the second and third century. The importance of Aquincum, as the capital of this region, with its five Mithraic shrines and a temple shared in common by Baltis and Dea Syria,⁵ and with its quantity of surviving monuments, plastic and epigraphic, gives a foundation on which to stand in investigating the remains, less well known, of Dunapentele.

Intercisa, which is named in the Antonine Itinerary and the Notitia Dignitatum, is supposed to be Dunapentele on its hill above the Danube, south from Aquincum about a half-day's journey with the current. Excavations, carried on under difficulties for a long stretch of years, have yielded inscriptions, tombstones, and other sculptures, and among them the series of slabs now in the Museum at Budapest with which this paper is chiefly concerned. Among the dedications found is one to Diana Augusta for the health of our Lord Alexander Augustus offered by the Veterans of the Emesa cohort, others to Deus Eternus for the same emperor and his mother, and to Sol Invictus; we find them to Deus Sol Socius; and *Deo Invicto Mythrae* is the only one to Mithras.⁶ A Master of the Emesa cohort, who came from Harran, with his family, consecrated a stone which shows him sacrificing to Jupiter Optimus Maximus, his wife Aurelia Julia sitting on the other side.⁷ An altar is consecrated to Aziz, who was the titular god of Emesa, and whose cult survived uncounted centuries at Harran.⁸ At Aquincum, one Harta filius, "surus ex regione Dolica vico" had prayed for Alexander Severus. Of Schober's twenty-three tombstones from Dunapentele, seven commemorate men of the Emesa cohort; among them a man and his wife from Osrhoene, a couple from Apamea, some one from Samosata. These names have their own atmosphere.

Cases occur, amongst funeral stela, in which the wife wears Celtic, i.e. "native"

¹ J. Toutain, *Les Cultes païens dans l'empire romain*, I, ii, 174 and *passim*; A. Furtwängler, *Das Tropaion von Adamklissi und provinzial-römische Kunst*, pp. 500 ff.

² *C.I.L.* III, 3476-81, 3483, 3414-5, 3431-61, 3462, 3425-7, 3464-7, 10302, 3412-13, 3424, 3416, 3488-9, 3418: Isis and Serapis, 14343.

³ F. Cumont, *op. cit.*, Vol. II, Nos. 213-19; cf. Vol. I, pp. 250-55.

⁴ A. Schober, *Die römischen Grabsteine von Noricum und Pannonien*, Wien, 1923.

⁵ *C.I.L.* III, 10393, 10574, 10964.

⁶ *C.I.L.* III, 10304, 10301, 10310, 10311, 10309.

⁷ *C.I.L.* III, 10307.

⁸ *Arch. Ért.* I, 1909, p. 330; cf. *C.I.L.* VIII, 2665. A list of the Syrians at Dunapentele is given by A. Hekler, "Forschungen in Intercisa," *Jahr. Oest. Arch. I.*, XV, 1912-13, p. 178, note; Celts, p. 181, note; Aziz, p. 182.

dress and the man, Roman: plenty of the veterans or employees of the civil service seem to have married and settled here on the edge of the civilized world. Inscriptions invoke the gods who can get a man home again,¹ and a theme very common on the reliefs shows figures travelling in a cart, as though to record in perpetuity how long a way it was to Tipperary. Of these compositions Dunapentele has yielded many. The finest perhaps of them all, however (Plate X, 1), comes from the site of Carnuntum, and was erected at the end of the first century in memory of a soldier² by two of his freedmen. It could not possibly be mistaken for a defunct tax-collector or sutler or any of those Roman civilians whom some would see commemorated on all the stelae of this sort, in which Professor Rostovtzeff recognizes the theme as intended to indicate the long journey of the soul.³ Frequent also, and for the same intention, is the figure of a solitary horseman: on a slab from Aquincum⁴ it is easy to see (Plate X, 2) how quietly he moves, how unlike the Thracian horseman! As I have tried to show elsewhere⁵ the Thracian horseman, the Iberian *jinete*, and "Santiago Cierra España," all constitute a single type, which embraces also the Wild Huntsman; but this Pannonian horseman is identical not with such riders but with the figure of S. Martin—as, for instance, on the façade of Lucca Cathedral—and that on the transept pier at Bamberg. Now the last represents S. Stephen of Hungary, while the former came into Gaul from Pannonia: they are alike and they all come out of the same land. The relation of the two types to each other, and to the Greeks who bred the wild mares of Thessaly, and to the Jazyges—Sarmatians of the Hungarian plain—who drove a wedge between the legions stationed in Pannonia and in Dacia centuries before the horse-riding nomads of the Hallstatt culture are supposed to have arrived on the spot, cannot here be considered. Suffice it to note the aspect, on Danubian tombstones, of something very near to nomad, in the ever-travelling carts and the recurrent horsemen (Plate X, 3).

In many instances a groom holds the horse, waiting till his dead master is ready. Some of the slabs are entirely literal:⁶ we find there the dead man's armor and his horse; or a regimental doctor who after twenty-six years of service was honored with his mounted effigy carrying the *vexillum*.⁷ But, on the other hand, there are plenty like a stele from Dunapentele:⁸ it simulates an aedicula, charged above with mystical symbols—the Medusa head to guard the grave, two dolphins, the escort and companions of the soul going west across the "equal waters of the dead," the wind-gods' heads that waft the voyager, pine-cones that symbolize life abundantly renewed. In the shallow recess the half-figure stands wrapped in a hooded travelling cloak, a packet of papers in the left hand, ready to start off once more; and below, the groom holds his horse, saddled, prepared for the last and the longest journey.

Almost as ill-defined and general in application are such themes as the pair of Attis-figures⁹ with Phrygian cap and inverted torch or simple *pedum*, hardly to be

¹ C.I.L. III, 3429.

² Schober, No. 105, fig. 45.

³ M. I. Rostovtzeff, *The Social and Economic History of the Roman Empire*, p. 535.

⁴ Schober, No. 112, fig. 50.

⁵ "The Rider on the White Horse," *Art Bulletin*, 1922.

⁶ Schober, No. 54, fig. 24.

⁷ *Ibid.*, No. 116, fig. 54.

⁸ *Ibid.*, No. 190, fig. 98.

⁹ Schober, No. 287, fig. 151. Note that the only certain case in Schober of Attis cult is No. 192, very military and very late—second or third century, lying near Pressburg and not within our field.

distinguished from the genius of death¹ except that they want his wings: or, again, the pair of panthers flanking a kantharos. This last motive, however, occurs only twice among Schober's reproductions: once in the gable above an elaborate, perhaps epical, scene; the other time symbolic, in conjunction with Medusa, dolphins, and genii with torches and victors' wreaths, dominated by a group of three persons wearing native dress who in a long inscription convey confusedly a sense of grief and of gallantry.

It is not the intention here to pursue themes entirely conventional: hunting frieze designs or sacrificial tables with their attendants; nor dolphins, sea-horses, lions, eagles (with or without the symbolic wreaths or serpents) nor other animals; nor pine-cones, nor garlands and youths that bear them. Of these it is apparent that only the first, if any, is irrelevant to the occasion, and only the second literally intended.

Reviewing Schober's 356 "grave-stones" it appears that they show no less monotony than those of the famous cemetery at Genoa, but communicate more feeling. In remarkably few cases, on the whole, may be found a complicated scene with literary implications. The series of superb portrait busts is a thing apart.

II

Berosus of Babylon, says *M. Cumont*, was not the only priest who would fain have offset the lies of the Greeks by the ancient wisdom of his ancestors.

A little group of reliefs from Aquincum and Dunapentele, now in the National Museum at Budapest, barely a score all told, do, however, all afford implications of a mystical intention. At first sight it is apparent that the themes are selected from Latin and Greek poetry: a better phrase would be, from the Greek mythology, for they deal with legendary matter fast-fixed in the memory of the Mediterranean peoples drawn up along the Danube. It was largely congenital: for the rest, a lawful heritage claimed as European and imperial. The language of the inscriptions is Latin, though the lore is what we call in a broad and loose sense Greek.

Now it has happened that those who recently were writing on the religions contemporary with early Christianity were usually focussing upon Rome, or else concentrated on a single one of the great mystery religions. This in the former case withdraws attention from the domain of the present investigation, and in the latter case cuts off all the fringes, the vague approximations and symbolic identifications and interwoven cosmologies that existed in men's minds and gave color and tone to their meditations. A great deal of feeling is in a man, some of which can be cast into clear ideas and logical sentences; much more of which finds expression² in a collect or a psalm that is recited for the symbolic and not the literal application of the words, or in poetry like lyrical parts of Shelley's *Prometheus* and Swinburne's *Before the beginning of years* chorus, or in music like the plain song of Solesmes and the negro *Spirituals* that is still allied with words, or in paintings and sculptures

¹ Schober, No. 139, fig. 65; No. 239, fig. 125, which involves Legio XIV Gemina. Kantharos and griffins, No. 235, fig. 122, at Gratz, ca. 100. Kantharos with grapes, a fine example, No. 260, fig. 132.

² I tried once to indicate this, very inadequately, in the description of the Mass Fulbert of Chartres composed for Santiago. *Way of S. James*, III, 152-160.

that have what is called a religious subject-matter. There is indeed more than one attitude, intellectually profitable, in which to approach what are sometimes despatched curtly and smugly as "the syncretic religions": that of Bachofen, that of Reitzenstein and Eisler. The Fathers of the early Church, who classified as Heresy, collectively, all speculative religion that was incommensurable with the Epistles and the Gospels, both what we call heathen and what we think of as mere indiscretions and schisms, in the course of polemic enlighten us enormously. They are writing for a wide circle and they represent preaching directly addressed to the unlearned and their matter is what anybody who thinks at all is thinking about, from the Bishops in Council down to the martyrs in the arena who had perhaps been single men in barracks before *Christ unbuckled the sword-belt*.

Among the men quartered or settled in Dunapentele, a certain number, as already said, came from towns famous as shrines, or as places where a religion was born—that of Dea Hammiarium, of Jupiter Dolichenus, and the Stone of Emesa; Harran, where as late as Arab times the high-priest of a strange cult was praying for the restoration of the worship of Aziz¹ and in the twelfth century a Spanish scholar of Granada, returning from a pilgrimage, visited a sanctuary—a mosque with its attendant ascetic, and both sheik and mosque had taken over Aziz as in some sense their appellative.² To such devout Asiatics "the lies of the Greeks" were as repugnant as to the Fathers of the Church, but of other symbolism they had little or none: the plastic types which were at hand they employed, and read into these their own significance.

Some of these sculptures at Budapest come probably from graves, or are parts of a sarcophagus; others, however, are wall-decorations of architectural tombs and take the place of paintings as the Romans made use of those, or they were inlaid into open-air chapels or aediculae. The themes are all taken out of the mythology; their inner meaning varies in significance, and in poignancy. Just so, Apuleius' story of Cupid and Psyche tells how "the Soul is by patience and divine grace purged of her mortal weakness, passes unharmed through the shadow of death, and is at last raised by heavenly Love to a celestial sphere."

Various instances have survived elsewhere of themes selected for their mystical implications and juxtaposed in a funerary significance. In sculpture we have surviving, the Pranger at Pettau and the Igel-Säule near Trier; in painting the so-called Tomba dei Nasonii, the Columbarium of the Villa Pamphili which is highly unsatisfactory, and something at Herculaneum and Pompei—take, for instances, the marble painting of Procne and Philomela with the weary Silenus,³ and in the Casa del Sacerdote⁴ the apposition, on corresponding walls, of Orpheus with the beasts and Andromeda's deliverance.

¹ Reitzenstein, *Poimandres*, p. 166 and notes.

² Ibn Jubayr in the summer of 1184. See *Viaggio*, translated by Celestino Schiaparelli into Italian, Rome, 1906, pp. 234-5.

³ C. Robert's identification of this—"Der müde Silen," *Hallisches Winckelmannsprogramm*, XXII, 1899—has been attacked, painting, identification and explanation, in *Röm. Mith.* XVIII, 1903, 58 ff., by K. Hadaczek, who would have the Silenus not tired but drunken. He is not particularly convincing.

⁴ For this I am indebted to Professor Panofsky of Berlin, the house being still unpublished.

Pettau, though situated east of the Danube on the Drave, is yet in Pannonia: the monument called the Pranger stands in the market place¹ and shows, below, Orpheus with his lyre before Hades and Persephone and either Hermes or Herakles with Eurydice, the relief flanked by Attis figures; above, Orpheus makes music among the beasts, Selene sits watching by Endymion, to whom Zeus granted eternal youth but sunk him in eternal slumber. Two winged Genii are holding their blazing flambeaux up, not down—Phosphor and Hesperus; then a pair of lions on top have rams' skulls in their paws and a head of Saturn between them. The narrow compartments of the sides are occupied by Dionysiac dancers male and female, griffins and panthers. Of two other fragments found at or near the same town, one repeats the design, a trifle simplified, and the other seems to substitute Actaeon. The Igel-Säule, on the road near Trier,² includes among the themes found also at Dunapentele: Mars and Rhea Sylvia, Ganymede, Icarus, Perseus delivering Andromeda and showing her the Gorgon's head mirrored in a well. In the so-called Tomb of the Nasonii³ the elaborate compositions, about twenty-five in number, involve Pegasus, with and without Bellerophon, Herakles with and without Alcestis, Orpheus with and without Eurydice, Oedipus and the Sphinx. The paintings of the Villa Pamphili Columbarium,⁴ which was, after all, a humble grave-chamber, crowded and plebeian, are differently conceived: the mythological scenes are susceptible of religious or allegorical interpretation, but interwoven with them is a different sequence, of fruits and creatures, landscape scenery diversified by architecture, still pools of water. This can hardly be ignored as mere space-filling, remembering the almost contemporary description of *doux verger* and green pastures at Carthage, in which the scenes of the Visions of S. Perpetua were laid. The stucco reliefs of the subterranean Basilica outside the Porta Maggiore⁵ are conceived quite differently: they are not funerary, for one thing, but, for the most part, purely ceremonial like feeding the snake and putting incense on the flame. But indeed, as one might have expected, mysticism appears not indigenous to Rome and what is found is imported, while in outlying parts, along the Rhineland and upon the Danubian frontier, every theme flowers into an other-world significance.

Of the reliefs in the Museum at Budapest about a score have been selected, all sepulchral in intention, and all mystical. They may be roughly sorted into three groups: I, the historical; II, the mythological, drawn from the poets; and lastly III, a few to be referred directly to the cults of the two great Saviours, Herakles and Orpheus.

I. 1. Mars and Rhea Sylvia.⁶ Mrs. Arthur Strong has shown beyond dispute

¹ Schober, 141, fig. 67. A. Conze, *Römische Bildwerke einheimischen Fundorts in Österreich*, II, 1875, pp. 1-10, pls. V and VI.

² Mrs. Arthur Strong, "The Exhibition . . . Rome 1911," in *J.R.S.* I, 1911, pp. 24-26, pls. V-VII: Csermelyi Sandar, *Arch. Ért.* XXVIII, 1908, pp. 149 ff. Cf. Mrs. Strong, *Apotheosis and After Life*, pp. 222 ff.

³ A. Michaelis, "Das Grabmal des Nasonier," *Jahrb. Arch.* I. XXV, 1910, p. 101.

⁴ E. Samter, "Le Pitture Parietali del Columbario di Villa Pamphilia," *Röm. Mitth.* VIII, 1893, p. 105 ff. R. Eisler, *Orphisch-Dionysische Mysterien-Gedanken in der christlichen Antike*, pp. 173 ff.

⁵ F. Cumont, "La Basilica Sotteranea," in *Rassegna d'Arte*, VIII, 1921, p. 37.

⁶ Dunapentele. S. Reinach, *Répertoire de Reliefs*, II, 120, 4: Mrs. Strong, *Apotheosis and After Life*, 224-5.

how the historical reference, endeared no doubt by pride of race, carried an allusion to the "awaking from the sleep of death to a life of blessedness, with the further assurance of wedded union with the god." It is the story of Ariadne done into Latin.

2. Aeneas escaping from Troy,¹ with the child held by his right hand, carrying his aged father, well wrapped up (Plate XI, 1). The significance of the relief may be only, so to speak, gnomic: the pious Aeneas as an ensample for all such as that Tartonius Secundinus, a soldier in the XIV legion, *defuncto in expeditione incomparabili pietate*. But the flight of Aeneas from burning Troy and his recommencement of a new life across the water, if on the one hand it was as obvious as to the Jews was the flight from burning Sodom, yet carried with it the pledge which inheres in all prototypes, of the life of the world to come.

3. Achilles dragging the body of Hector behind his chariot.²

4. Priam before Achilles.³

5. Menelaus carrying off the body of Patroclus⁴ at Cilli should perhaps be allowed with these. Since the spirited relief of Achilles from Dunapentele (so well reproduced by Hempel) shows clearly the Greek hero carefully aiming a large stone at the head of the dead Hector, a like object can be made out in Reinach's second illustration. The motive is indeed a Passion of Hector, combining the mourning as for Thammuz or Attis or Adonis with such *passions* of Christian martyrs as the early Church was already recording and laying safely away. For it is said in the *Recognitions of Clement* that the Trojans worshipped Hector:⁵ "The Syrians worship Adonis, the Egyptians Osiris, the Trojans Hector. . . . Patroclus [is worshipped] at Pontus." And so, as in all these devotions of the mysteries, the passion of Hector and his sacred body were endeared and not degraded by the sufferings borne. Unluckily the inscription on the Patroclus slab is too defaced to yield any information, and the other three reliefs seem to have no inscriptions. One would like to know a little about these men who worshipped the Heroes of the Trojan War.⁶

II. 6. Œdipus with the Sphinx (Plate XII, 1), is simple enough on the same terms as the Pilgrim's Progress.⁷ The second of the Œdipus reliefs at Budapest, which comes assuredly from Dunapentele, shows on the lower part of the broken stele a vine with rich clusters growing out of a kantharos. In the complete slab he holds the ox-goad with which he is to kill his father. Moreover, the Œdipus story figures among the most lucid of the Tomba dei Nasonii paintings. There is a hidden meaning here: the *Tabula Cebetis* expounds the Sphinx as the fatality of human

¹ Dunapentele. Reinach, II, 120, 1: *Arch. Ért.* 1906, p. 243, fig. 18.

² Dunapentele. Reinach, II, 122, 3: *Arch. Ért.* 1906, p. 243, fig. 19. Cf. Reinach, II, 123, 1. A. Schober, "Hector's Lösung auf Sarcophagreliefs," *Jb. Arch. I.* XXII, 1926, p. 66.

³ Aquincum. Reinach, II, 114, 4. The subject serves for one of the stucco reliefs of the Tomb of the Pancratii, at Rome: Mrs. Strong, *op. cit.*, p. 207.

⁴ Schober, No. 83, fig. 33; c. 100.

⁵ The Greek Church still honors, on June 9, SS. Oreste, Diomede et Rhodoni: V. Chevalier, *Bibliographie*.

⁶ *Recognitions of Clement*, Ante-Nicene Library, III, p. 443.

⁷ Dunapentele. Reinach, II, 119, 1. But in *Arch. Ért.* 1906, p. 243, fig. 19, the cut is of a different one. Says Cebes: "Sphinx is Insipientia," the Folly of the man in the Psalm "Dixit insipiens": if not solved, a man dies. *Cebetis Tabula*, Dübner (Paris, 1877), p. 1. Cf. Eisler, *op. cit.*, 160.

folly, which will bring a man to his death unless he solves the riddle, as who should say breaks up the complex. The tiresome allegorical females of Cebes lived on into the Middle Age and served Giotto's turn in Padua without becoming much more engaging, but this is a beguiling plump kitten-sphinx.

7. Ganymede (Plate XII, 2).

8. Leda¹ (Plate XII, 3).

We know that the figure of Ganymede is a convention for apotheosis, the Soul borne swiftly up. Ganymede carries, by the way, in his left hand what seems to be a *pedum*, which in these symbolisms is something more than a shepherd's crook. The adventure of Leda must necessarily stand for the soul's union with the divine. Hippolytus, however, who in the course of his *Refutation of All Heresies* rehearses the entire doctrine of the primitive Ophitic sect, cites one Justinus, their leader:

"When therefore," he says, "you hear men asserting that the swan went in unto Leda and begat a child from her, know that the swan is Elohim and Leda, Edem. And when people allege that an eagle went in unto Ganymede, know that the eagle is Naas, and Ganymede, Adam."

This makes the pair very sacred effigies, highly edifying, and explains probably the Coptic preoccupation with the theme of Leda and the Swan.

9. Medea:² the tragical queen with her two children pressing against her sides holds the sword yet sheathed and broods. There are in the Museum portions of three figures of Medea, two at least found at Dunapentele, and all alike but not precisely so. The free-standing figure is left unfinished at the back, as though it were placed in a shrine; from the relief the two children were perhaps absent; the third piece is hardly more than a fragment. About the worship of Medea at Corinth we know little, except that the Corinthians believed they had killed the children, and mysteries of an expiatory type were celebrated at the temple of Hera. Her Sacred Marriage with Jason was celebrated in the island of Corcyra, among the Phaeacians, where an annual sacrifice "for the Fates and the Nymphs in the fane of Apollo the shepherd-king" perpetuated the memory. And the scholiast of Euripides remembers that she was deathless. But the serene loveliness of a sun-child and of a mystic bride is not hers in the sculpture. She was the niece of Circe, the priestess of Hecate, and a potent enchantress who brought the dead back to life; she was a Black Sea princess and in the other world she was, finally, the bride of Achilles, as Lycophron never forgets. Vestiges, however, there are of another aspect under which she was earliest worshipped, as an earth goddess, espoused by Zeus, and for the lady Hera's sake she had withstood him, and Hera had promised immortality for her children as her reward. But though she brought each in turn

¹ Aquincum? Reinach, II, 121, 5; 123, 3. Hippolytus, *Refutation*, Ante-Nicene Library, VI, 192.

² Dunapentele? Reinach, II, 121, 2: *Arch. Ért.* 1906, p. 231, fig. 11, p. 233, fig. 12: J. Ziehen, "Römische Bildwerke im Nationalmuseum zu Pest," *Arch. Ep. Mitth.* XIII, 1890, 43-47. Schober, *op. cit.*, p. 167, thinks these figures crowned the stelae. See Daremberg s.v. *Medea*; C. Robert, *Die griechische Heldensage*, 1920, 185-9.

In the *Recognitions* of Clement (Ante-Nicene Library, III, 439) are hints of a sidereal significance: By Jupiter Juno became the mother of Medea, and he, having received a response that one who should be born of her should be more powerful than himself, and should expel him from his kingdom, took her and devoured her.

when born to the sanctuary of the goddess, they all died, one after another. So, knowing of these two strands of saga which the scholiasts interlaced as best they could, and realizing that three dedications are relatively many among the various surviving here, it seems best to recognize in the cult to which she was entitled and which had travelled so far, something rather special and private, tragical, expiatory, illuminated by hope at the end; like indeed to the Virgin of the *Quinta Angustia* with the seven swords in her heart, or the strangely-named *Christo de Olvido* bleeding and shivering above a few burnt-out candles, in a corner of Toledo Cathedral.

10. Bellerophon on Pegasus, Chimaera below (Plate XI, 2).¹ The winged horse Pegasus, soaring, is the type of the soul which flies up to God. Bellerophon, like Perseus, is cited repeatedly by Justin Martyr as one of those who, born of a woman, rose up to heaven, sons of Jupiter who die to rise again. The parallel with Jesus is accepted, albeit irritably, precisely like Old Testament parallels such as David or the Brazen Serpent.

11. Perseus killing Medusa, Athena standing by (Plate XIII, 1). This is probably from Aquincum, like the Iphigenia with which it corresponds exactly. Perseus is looking at the image of Medusa reflected in the shield which Athena holds to serve him as a mirror—a variant of the Igel-Säule sculpture, the Pompeian paintings, and Rossetti's epigram *Aspecta Medusa* which possibly has a Latin source. The Intercisa theme is revived in the religious painting on the east coast of Spain, in Catalonia and Valencia, where S. Michael carries a shield with a great crystal boss in which is mirrored the devil at whom he strikes. The Wernher S. Michael, signed by Bartolomé Bermejo, is the finest example. There is another among the paintings that were once Queen Isabel's, now in Granada. I suppose the transmission to be traditional rather than literary. We are used to reckoning Perseus among the Saviours,² as a power of light, but he is more than that, he is the Logos, Incarnate, and Virgin-born. Andromeda, by the same showing, is the Soul of Adam and Eve. Pausanias when he observes that Perseus first knew Medea's beauty in death, as Achilles Penthesilea's,—which is an exquisite and suggestive saying,—is in his best vein, as the poetic and sentimental traveller.

12. Iphigenia brought back from Taurus (Plate XIII, 2). The door of the temple is thrown wide, and the Scythian porter lies doubled up; without any image Iphigenia is entering the ship. The upward rush of the figure is rather fine. It suggests in various ways, the Christian theme of the *Anastasis*, with Hell's gates, Hell's porter overthrown and "the spirits in prison," the souls just released, drawn up by the Redeemer. Lucian says in the Dialogue called *Toxaris* that the Scythians sacrifice to Orestes and Pylades and this history is taught to children: it is impossible not to read the sculpture as, like that of Alcestis and Eurydice, a bringing back from the dead.

13. Theseus killing the Minotaur, a friend standing by (Plate XIV, 1).

¹ Dunapentele. Reinach, II, 120, 2. *Arch. Ért.* p. 237, fig. 16. Cf. Reinach II, 112, 5. Eisler, *op. cit.*, 161. Justin Martyr, *First Apology*, Ante-Nicene Library, II, 25, 54; Perseus, *op. cit.*, p. 26, 54, and *Dialogue with Trypho*, 180.

² Ibn Jubayr in 1183 visited a temple of Perseus at Panopolis in Egypt: trans. Schiaparelli, pp. 31-2, 354. Cf. Herod. II, 91. It was destroyed in 1378.

14. Theseus and Ariadne, holding the clew, a portico on the right (Plate XIV, 2).¹

One is tempted to supply one's own interpretation of the first of these, bearing on our sorry bodily constitution in which at the very centre of the labyrinth abides the Beast. Dr. Jung might accept it. Theseus was in Athens a surrogate of Herakles and so, though his proper weapon is the sword, he takes over the club. With that he is killing the Minotaur. In the second relief he holds it in his left arm, much as Ganymede, in Plate XII, 2, and here it is just such a *pedum* as the Satyrs carry. In the Dionysiac half of the Tereus relief at Dunapentele, the central figure holds, I think, such another.

Theseus is reckoned, however, among the powers of light, Apollonian not Dionysian. He left Ariadne at the bidding of Athena. Says Bachofen: "He marks the passage from a deep material stage of religion into a higher—the Apollonian nature of light, the emergence from earth and moon-stuff into sun worship" and the Fathers would have endorsed him even to the phraseology. In the light of this it would appear that Ariadne, Pasiphae's sister, lady of the Labyrinth, who is herself chthonian, has brought him safely through and out by her clew, whereby she was in contact with him all the time, and now, as they emerge into open day, it is all but wound up into a ball again. The ordeal was Dionysiac, hence the *pedum*. The companion in the Minotaur scene presumably has grown up from the weeping lad who in a painting at Pompeii stands for the doomed youths and maidens, unless indeed the relief is actually in some symbolic sense a sort of initiation scene, at which the other youth assists. The conflict pose, which is curious, struck Ziehen but suggested nothing to him: Theseus has set one foot on that of the Minotaur and laid a hand on the back of its neck, and the Minotaur has raised an arm so as to touch the crown of its own head. This may be ceremonial—it is not belligerent. We have to remember that the Minotaur, for his brutality, was a sort of mascot of the legionaries, "as bringing into special importance the dark night-side of life, in which significance he commended himself to the use of the legions as a special victory-bringing standard or device."² Any reader familiar with the stories of "Bull-Dog Drummond" will understand. The definitions of Festus and Vegetus (s.v. *Minotaurus*) are virtually identical and are very nearly nonsensical as they stand: "quod. . . occulta esse debent concilia ducum." Then Jean de Meung turns the *Epitome Rei Militaris* (as who should say *Moss's Manual*) into French, Minotaur and all, as a Mirror of Knighthood, and after nearly half another millennium the secrets of the regiment get their due observance at the close of *The Man Who Was*.

15. Tereus, Procne and Philomela.³ The form of the slab, narrow and long like a

¹ 13 and 14 both from Aquincum. A. Conze, "Theseus und Minotaurus," *Programme zum Winckelmannsfeste*, Berlin, 1878, p. 9. J. J. Bachofen, *Versuch über die Gräbersymbolik der Alten*, Basel, 1859, pp. 66, 130.

² Bachofen, *op. et loc. cit.* See Festus, *De Verborum Significatione*; s.v. *Minotaurus*; Flavius Vegetius Renatus, *Epitome Rei Militaris*.

³ Dunapentele. Reinach II, 123, 2, gives only one half: both are in *Ach. Ért.* XXVI, 1906, p. 251, figs. 23 and 24; cf. p. 275, Karoly, "Tereus Mythosa Dunapentelen." *Recognitions of Clement*, Ante-Nicene Library, III, p. 443. Hippolytus, *Refutation*, Ante-Nicene Library, VI, 163. Justin Martyr, *Discourse to the Greeks*, Ante-Nicene Library, II, 282. Jebb, *The Fragments of Sophocles*, V, 225.

frieze, shows this a wall-decoration. It is broken in half; on one side Tereus starts up in horror, overturning the table and brandishing a leg of Itylus; one of the women addresses him, the other runs off, looking backward. The other half is Dionysiac, a central figure between two musicians; he carries either the *pedum* which has already figured in these sculptures, or else a thyrsos; they have, respectively, the double flute and the cymbal. Now Tereus was a Thracian and never worshipped, but the Fathers, Clement and Hippolytus and Justin Martyr, are haunted by a memory of cannibalism though they are shy of explicitly accusing any cult of anthropophagy, even ancestral. At one point in the legend Procne disguised herself as a Bacchant to seek out her sister's hiding place in the woods; at an earlier point, in Athens,—a marble painting from Herculaneum supplies the episode—the two king's daughters, Procne and Philomela, encountered within the temenos of Athena the tired Silenus and his donkey, and tended and refreshed him, what time Dionysus passed through Athens and was honoured there by the king. If this were a tale of witches instead of Bacchantes we should know what conclusion to draw, of early initiation and a dark sacrament. But King Pandion is dead, and Lucian¹ sees them with other eyes. He describes "statues" of the three—they must have been reliefs—outside the temple of Dea Syria at Hierapolis, "Philomela and Procne still women, Tereus already changed into a bird." Justin Martyr, who was a Samaritan, may well have seen the sculpture but he alters the scene in his *Discourse to the Greeks*: "and Procne is to this day flitting about lamenting; and her sister of Athens shrills with her tongue cut out."

16. Apollo and Marsyas, the Scythian in Phrygian dress whetting his knife, (Plate XV, 1.)² Apollo sits upon a griffin, his special attribute as sun god. "The Phrygian music as used in the worship of the Great Mother, was learned by the Greeks, and the invention of the flute, the Phrygian instrument *par excellence*, was localized at Kelainai [Apameia] and attributed to its river-god Marsyas. Marsyas, vain of his skill, challenged the god of Greek music, Apollo; he was defeated and flayed by his conqueror in the grotto from which issues the water of Marsyas: the Greek spirit overpowered the Phrygian." So far Sir William Ramsay. Given Philostratus' famous description of the representation, and men from Apameia quartered in Pannonia, the outcome is seen as a perfect adaptation of the means at hand to the poignant religious significance,—acceptance of the supremacy of Sol Invictus.

III. Lastly the two great figures of Saviours, who had each an organized cult, recognizable by us.³

17. Orpheus making music to the Beasts (Plate XVI, 1). The theme is familiar in the verse of Empedocles, in the fifth century ivory diptych of the Carrand collection

¹ *De Dea Syria*, 49. In *The Hall* (225-131) Lucian has described pictures of Perseus and of Medea, but these I take to be merely literary exercises which deal with pictorial tours-de-force, repetitions of traditional compositions, though more like Raphael's Transfiguration than like Michelangelo's Creation of Adam. It is noteworthy that the reliefs at Budapest are as often as possible unlike the paintings at Pompeii.

² From Szegszard, just south of Dunapentele. Reinach, II, 122, 2. For griffin, v. Cumont, in *Revue de l'histoire des religions*, LXI, 1910, p. 154; Sir William Ramsay, as cited, *Cities and Bishoprics of Phrygia*, 414.

³ Cf. Eisler, *op. cit.*, 23 ff. All these reliefs, 17-20, are from Dunapentele. Reinach II, 121, 4; 122, 1; 116, 1.

as transformed to Adam in Paradise, in the reliefs of the Orvieto façade (fourteenth century) as the Logos creating birds and animals, and then in the fifteenth, under Luca della Robbia's hand, comes back to the original Orpheus, among the marbles of the Campanile at Florence. In this particular series of examples, the emotional ambience is always perceptible, and identical. Orpheus is, of course, the Logos. In the carving, the technical rendering of the dress of pleated folds, by a sort of shallow channelling, is a curious device of a provincial and rather helpless art. In the Orestes relief it is used for the costume of the dead Scythian, the Temple door-keeper, and for Priam's in a relief that Schober published. On the Tropaeum at Adamklissi, are plenty of examples; and another may be found in Romanesque carving in the Asturias, at S. Maria de Preiorio.¹

18. Orpheus bringing back Eurydice is an admirable work in its own kind, which is that of the archaic by imperfection, and is fraught with feeling (Plate XVI, 2).

19. Herakles bringing back Alcestis from the dead (Plate XVII, 1). Ruinous, and thereby in significance immensely heightened, these carvings that have suffered so, are in a way piteous, and their utterance of things inexpressible by unattaining toil is spiritualized and deepened. The strange rhythm of incised lines, parallel or geometrically simplified, makes about the wedded couple music like stringed instruments. In the worn and wasted stone Alcestis moves like a ghost.

20. Herakles delivering Hesione from the sea-monster (Plate XVII, 2). Hesione is Andromeda's surrogate, the intention being to glorify Herakles, and Callimachus is said to have brought back the old epical stuff to men's minds. The posture of the heroine is as Aratus described her among the stars "racked, with arms stretched far apart . . . bonds are her portion."² The significance is the same: a long ordeal and deliverance, and union with the Saviour.

21. Herakles alone, resting after his labors (Plate XV, 2): the name of this subject, Dr. Panofsky kindly tells me, is *Herakles epitrapezios*. It survives in the figure at Chartres, on the south porch, of the Logos resting on the seventh day, where the labors of the foregoing six are carved in the archivolt above; also at Laon, in the rose over the south door of the façade, when the Creator leans upon his staff and seems to drowse. The lion's skin is here spread over the rock on which he rests, its head and tail being particularly plain; his right arm outstretched, the right hand resting as on a sceptre; but his club has been exchanged for the *pedum*. There is a bronze relief, very similar, in the Villa Giulia.

We have no need to cite the Fathers here, though indeed they have a kinder feeling for Herakles than for most Heroes, and are forever bringing him in evidence, and quoting the pagans who allegorized his labors. Justin, the Gnostic, called him the greatest Servant of God after Jesus. The Fathers could have revealed much more: they too often preferred to scold. It is perhaps clear that to the ancient world these old themes held more significance than we know of. After all, how many of the readers of the *A.J.A.* would recognize, or interpret rightly, S. Teresa of the

¹ Adamklissi: Furtwängler, *op. cit.*, pls. IV-VII, and F. Studniczka, "Tropaeum Traiani," in *Abhd. der Phil. Hist. Klasse der kön. Sach.-Gesellsch. der Wissensch.* XXII, 4, 1904. A. Kingsley Porter, *Romanesque Sculpture of the Pilgrimage Roads*, Nos. 881, 882.

² Aratus, *Phaenomena*, II. 202-4.

Child Jesus, or the Curé of Ars, or that figure of a Centurion, a crow by his side, which one sees in the house of many a parish priest, or S. Rita who is Advocate of the Impossible?

III

Here we see in the Second Century of the Empire the mentality of Romanesque and Gothic marble-workers. Chance? No. . . . *Silvio Ferri*

About the sculpture of these slabs little has been said. Perhaps there was little to say. They are mainly work of the second century, or the first, or the third, provincial, ruined. Of some, one would think that the Moslem Turks when they came had deliberately destroyed the faces: Herakles with Alcestis, Orestes with Eurydice. But on discarding all classical memories, and ordinary aesthetic canons, and on taking these sculptures as pure sculpture, one perceives, here too, beauty of a strange and surprising kind, which has come into its own.

The matter of Roman provincial art, in the Rhineland, on the Danube, in the north of Italy, is much in the minds of men. Adolf Furtwängler and Eugenie Strong, a quarter of a century ago, with Arnold Schober and Silvio Ferri in the last year or two, have been saying, virtually, all the same thing: that here is the dawn of mediaeval art. The principle of continuity, its existence, its working, is apparent. Just so Puig i Cadafalch, studying the style that he calls First Romanesque, is forced to recognize two different kinds of architecture: one important, skilled, what might be called architects' work, the other humble, laboriously attained, autochthonous, like a folk-use; and to show how in the actual monuments the two are often fused. Where among the grave-stones figured in *Germania Romana* or the *Römischen Grabsteine* the imperial art is plainest, it is tinged with other elements autochthonous; where the sculpture is most laborious, quaintest, most charged with unfulfillment, it is quick with the seeds of the new age. In it that quality inheres, subtle, fugitive,—not here described but only accounted for,—which arrested the gaze and sustained it, as the mystical implications caught the thought and drew it on, there in the circular inner chamber of the Hungarian National Museum.

GEORGIANA GODDARD KING

BRYN MAWR

A COMPARISON OF ESKIMO AND PALAEOLITHIC ART

PLATES XVIII-XXIV

PART II. NON-REPRESENTATIVE ART

Dots

Dots are comparatively rare in Palaeolithic decoration, and only a small number of them are of the round bored type common in Eskimo art. As far as they can be identified, the types of Palaeolithic implements most frequently ornamented with dots are pendants and spatulas. According to Piette,¹ this type of ornamentation is restricted to the upper levels of sculpture and the lower levels of simple engravings, i.e., to the Aurignacian, Solutrean, and lower Magdalenian. Dot ornamentation does not continue to the end of the Magdalenian, though it reappears in a very fully developed form in the Maglemosian; this fact argues against a direct inheritance by the Eskimo of the Palaeolithic dot designs. Piette's stratigraphy, however, needs revision,² so that perhaps this argument will have to be abandoned. Unfortunately, the material I have gathered is not sufficient to solve this question. The high development of the dot motif among the modern Central Eskimo and Algonkian Indians suggests, according to Speck, that this design originated in the region about Hudson Bay;³ but, he admits, it might be an element of remote antiquity, possibly dating from the Aurignacian.⁴ The prominence of the simple dot design among the modern Central Eskimo is due, I think, to the disappearance of the more complex elements of Thule art, leaving only the simplest patterns in the degenerate modern style.

In Palaeolithic art, dots tend to occur without any other decoration. The arrangement is sometimes irregular,⁵ though usually we can detect a tendency towards longitudinal lines of dots (Plate XVIII A, 1 to 3). An early Magdalenian prototype of the barbed antler points ("harpoons") of the upper Magdalenian, from Laugerie-Basse,⁶ has nine rudimentary barbs, pointing towards the point, just above the tang, and above them, continuing the line, is a single row of round bored dots. However, an Aurignacian bone specimen from the Gorge d'Enfer, Dordogne, has a slightly oblique transverse line of dots.⁷

The ornamentation is sometimes a little more complicated, when short transverse lines are added to the vertical lines of dots, as on two Magdalenian pendants (Plate XVIII A, 4 and 7).

¹ E. Piette, *L'Art pendant l'âge du renne*, Paris, 1907, explanation of pl. LXXXI, 3.

² He considered the Solutrean a phase of the upper Magdalenian, instead of a stage between the Aurignacian and the lower Magdalenian.

³ F. Speck, "Central Eskimo and Indian Dot Ornamentation," *Indian Notes*, Museum of the American Indian, New York, 1925, II, No. 3, p. 170.

⁴ Speck, *op. cit.*, p. 171.

⁵ As on a spatula from the Abri Blanchard, Sergeac, Dordogne, middle Aurignacian (St. Germain 56344), a double-ended paint mortar from Kulna, Moravia, Aurignacian (Breuil 1925, fig. 11, 7), and a spatula from the Grotte du Pape, Brassempouy, Solutrean (Piette, pl. LXXXI, 5).

⁶ H. Breuil, "Les subdivisions du paléolithique supérieur et leur signification," *Congrès International d'Anthropologie et d'Archéologie préhistoriques, XIV Session*, Geneva, 1913, fig. 30, 4.

⁷ S. Reinach, *Répertoire d'art quaternaire*, Paris, 1913, p. 82, fig. 3.

The round bored dot, either alone or in combination with other design elements, is common in the Thule, Punuk, and modern Eskimo cultures. The true round dot, however, does not appear in the Old Bering Sea culture, or on the archaeological specimens in Van Valin's collection from Point Barrow, Alaska, which in this respect shows the influence of the Old Bering Sea culture.

Pendants and ornamental plates with dot decoration are wide-spread in Eskimo culture and presumably very old, though precise information is wanting from Alaska. We can cite, however, examples from modern Alaska, from the modern and the ancient Central Eskimo, and from the Thule culture in Greenland (Plate XVIII A, 5 and 6). Sollas has compared a modern Eskimo drop pendant with one from Kulna (Plate XVIII A, 4), and considers the resemblance significant.¹ However, it is problematic how we are to regard the occurrence together of two such simple elements as the drop pendant and the round bored dot in longitudinal lines, when neither of them alone would be of any significance.

On the hair ornaments of the now extinct people of Southampton Island we find dot decorations consisting of longitudinal lines connected by diverging transverse lines (Plate XVIII A, 9), similar to the dot design of the pendant from Kesslerloch (Plate XVIII A, 7). A very similar design also occurs in the Danish Maglemosian, where dot decorations are very elaborate (Plate XVIII A, 8).

The prevailing tendency towards longitudinal lines of dots with secondary transverse elaborations we can also see on a Thule culture thimble-holder from northern Greenland (Plate XVIII A, 10), and on an archaeological boot-creaser from West Greenland (Plate XVIII A, 11).

Dots used as borders form a type of decoration distinguishing Eskimo art from that of the Palaeolithic. Dots are substituted for more elaborate borders on late and degenerate forms of the "winged" needlecase from Canada and northern Greenland (Plate XVIII A, 13, 14 and 16), and serve as borders on other archaeological specimens, for example on a wrist guard from Alaska (Plate XVIII A, 12).

Dots are a very common ornamentation on the backs of small animal figures, particularly the little swimming birds. Thirteen of the twenty-one bird figures found at the Thule culture site at Naujan, Melville Peninsula, Canada, are so decorated.² The dots may be scattered irregularly over the back;³ or, more commonly, the oval shape of the back may be outlined by a double row of dots, from which double lines of dots radiate to the edge of the figure (Part I, Plate XXIII B, 13 and 17). This is, therefore, a simple combination of the decorative principles we have seen on the wrist guard and the thimble-holder. On one bird figure from Kuk, the radiating lines form little loops, which Mathiassen has taken as a representation of the wings, tail, and feet,⁴ but at best this seems only a secondary adaptation of what is primarily a geometric ornamentation. From Naujan there is a salmon lure irregularly covered with dots,⁵ and from Alaska, as already stated, we have many animal figures covered with dots. A modern figure of a swimming bird from

¹ Sollas, *Ancient Hunters and their Modern Representatives*,³ London, 1924, p. 583, and fig. 305.

² Mathiassen, "Archaeology of the Central Eskimos," *Report of the Fifth Thule Expedition, 1921-24*, IV, Copenhagen, 1927, I, p. 74.

³ *Op. cit.*, pl. 32, 5.

⁴ *Op. cit.*, pl. 69, 12, and p. 241.

⁵ *Op. cit.*, pl. 32, 5.

the Pitlikaj Chukchi also has dots scattered on the head, and three chevrons on the back.¹

The line of dots is often enclosed between two straight lines, as on Alaskan needlecases, both archaeological and modern. The decoration often consists of encircling bands of straight lines, sometimes with spurs on one or both sides, with the spaces between filled with evenly arranged dots.² A similar border is found on modern Central Eskimo combs, and also occurs as an element in the borders of modern Alaskan belt buckles and ear pendants, in which the border is adapted to the circular form.³ It is a common Aleut decoration (Plate XVIII A, 15), and occurs frequently in Siberia and northern Europe, from the Chukchi to the Lapps.⁴ However, to my knowledge, it is not found in Palaeolithic art.

Variations of this design, consisting of dots placed between the spaces of the "ladder" pattern (Plate XVIII A, 17, 18 and 19), are found in Alaskan art, both from the Punuk and modern phases, in Chukchi and in Aleut art.

In the art of the Punuk culture, the dot appears enclosed in spaces of various shapes; it is also placed at or near the end of a line, usually a short spur at right angles, or diverging obliquely from the main lines of the design. It is also characteristic of this art that dots do not appear alone, but are always part of a well-integrated pattern. The use of dots in Punuk art calls to mind the dot designs of the Lapp Iron Age find from Varanger Fjord, East Finmark,⁵ and the various modern Lappish and Siberian examples of the dot combined with zig-zag lines and triangles.⁶ Rather than regard Punuk art as a purely autonomous growth on Alaskan soil out of the Old Bering Sea culture art, as Collins argues,⁷ I am inclined to see in it strong Siberian influences.

In arguing a Palaeolithic origin for the dot designs of northern Eurasia and the American Arctic, we should mention the many examples of dot decoration in the Maglemosian. They are found on amber pendants,⁸ on hafted bone and antler axes,⁹ and were much elaborated on bone dart points.¹⁰ Müller has pointed out the similarity between these designs and those of the Magdalenian,¹¹ but we must remember that the latter are much simpler. The dot was also widely used, alone and in conjunction with other elements, on the pottery of the succeeding periods in Scandinavia and elsewhere. The most important argument, however, can be

¹ Riks Museum, Stockholm, Vega 5440.

² As on the Punuk culture needlecase from Punuk (H. B. Collins, *Prehistoric Art of the Alaskan Eskimo*, Smithsonian Miscellaneous Collections, Volume 81, No. 14, Washington, D. C., 1929, pl. 17, b) and on modern examples from the lower Yukon and Kuskokwim Rivers (*op. cit.*, pl. 18, f and g).

³ W. J. Hoffman, "The Graphic Art of the Eskimos," *Report of the U. S. National Museum for 1895*, Washington, D. C., 1897, pl. 51, 4; pl. 48, 1; pl. 50, 6.

⁴ Specimens in the National Museum, Helsingfors.

⁵ O. Solberg, *Eisenzeitfunde aus Ostfinmarken*, Videnskabs-Selskabets Skifter, II, Historisk-Filosofisk Klasse, No. 7, Christiania, 1909.

⁶ Specimens in the National Museums at Helsingfors and Stockholm. ⁷ Collins, 1929, p. 14.

⁸ S. Müller, *Oldtidens Kunst i Danmark*, I, Copenhagen, 1918, figs. 36-38.

⁹ K. F. Johansen, "Une Station du plus ancien âge de la pierre dans la tourbière de Svaerdborg," *Mémoires de la Société Royale des Antiquaires du Nord*, Copenhagen, 1914-1919, figs. 35 and 61, and Broholm, "Nouvelles trouvailles du plus ancien âge de la pierre: Les trouvailles de Holmegaard et de Svaerdborg," *Ibid.*, 1926-1927, fig. 55.

¹⁰ Müller, 1918, figs. 23, 26-32.

¹¹ *Op. cit.*, explanation of figs. 37 and 38.

based on the finding, in the Lake Baikal district, Siberia, of Palaeolithic ornamental plates, carvings suggesting worms or fish, and other objects, decorated with round bored dots.¹

The Dot-and-Circle

The art of the Upper Palaeolithic has only two or three examples of an incised circle with a dot in the center, but a comparison of these with the dot-and-circle designs of the Eskimo may prove interesting. From the lower Magdalenian of Espélugues at Arudy, we have a semi-cylindrical piece of antler with a circle and dot incised on the convex surface near one end (Plate XVIII B, 1). This design Piette has compared to similar decorations on megalithic monuments, on objects from the Bronze Age and the Gallic period, and on Egyptian objects where it is supposed to represent the sun god. On a Magdalenian bone pendant from Saint-Marcel there are three double circles with dots at the lower end of a line with downward slanting spurs on both sides which begins at a circle drawn about the hole for suspension, the whole design being enclosed within a simple border (Plate XVIII B, 2). The dot-and-circle is sometimes found as the schematization of an eye, according to Breuil (Plate XVIII B, 5). The circle with central dot appears frequently on the painted pebbles of Mas d'Azil.²

The dot-and-circle is one of the most common decorative elements in fully developed Punuk and modern Eskimo art. It may stand alone, as on the specimen from Arudy, or it may be associated with the line with spurs on both sides, as on the Saint-Marcel pendant (Plate XIX A, 4 and 5). On Plate 77, Hoffman illustrates various forms which the dot-and-circle takes in modern Eskimo art. We might also be tempted to include the circles and ovals of the Old Bering Sea culture (Plate XIX A, 1 and 2). The style of the Old Bering Sea art, however, is so completely different from anything in Palaeolithic art that such a comparison could not lead very far.

The similarity between the Palaeolithic dot-and-circle and that of the modern and Punuk phases of Eskimo culture is really very superficial. Those of the Palaeolithic are incised free hand, and perhaps belong to the same school as the dots, circles, spirals, etc., in raised relief, characteristic of the semi-cylindrical baguettes described by de Saint-Périer.³ The modern Eskimo dot-and-circle is drawn by means of a compass or pronged fork,⁴ as can easily be seen from the mechanical regularity of the circle and the depth of the central dot in which the tool pivots. This mechanically drawn dot-and-circle has an interesting history. It is lacking in the Canadian Thule culture, in the Old Bering Sea culture, and in the earliest stages of the Punuk culture.⁵ It is not represented in the Van Valin find from Point Barrow. It first appears in the fully developed Punuk art, in association with the use of metal and metal-cut designs. Collins suggests a considerable antiquity for this period.⁶

¹ Information and photographs brought from Leningrad by Eugene Golomshtok, University Museum.

² G. G. MacCurdy, *Human Origins*, New York, 1924, II, p. 218.

³ Saint-Périer, "Les Baguettes sculptées dans l'art paléolithique," *L'Anthropologie*, XXXIX, Paris, 1929.

⁴ Hoffman, pp. 787-789.

⁵ Information from Henry B. Collins, U. S. National Museum.

⁶ Collins, 1929, p. 28. Collins has suggested, arguing from Chinese documents of the third century A.D., which prove that iron was then known to some of the tribes of northeastern Siberia, that iron in

Outside of Alaska, Halin I. Smith has found this design element, apparently drawn by mechanical means, in archaeological deposits in British Columbia, some of which must be very old. It appears on a bone dagger from Nicola Lake, in the Thomson River region,¹ on a bone plate from Lytton,² on an archaeological toggle for a dog halter from the territory of the Thomson Indians,³ and on a pipe,⁴ dagger,⁵ whetstone,⁶ and pestle,⁷ from archaeological sites in the Yakima Valley, Washington, though Smith does not believe the design to be old in this last region, but to have been recently acquired from the Okonagon.⁸ However, it has also been found on a barbed bone dart head⁹ and (as eyes) on a stone carving of a human head¹⁰ from shell heaps on the lower Fraser River, whose great antiquity can not be questioned.

How is it possible to reconcile this evidence with the theory of a Siberian origin for the dot-and-circle? These archaeological cultures of British Columbia have a certain unity of fundamental traits, as Smith has shown. Moreover, they contain elements which are also common to a phase of the ancient Eskimo culture in Cook Inlet, southwestern Alaska, which I have called the Third Period of the Kachemak Bay culture.¹¹ This phase is characterized by decorations apparently made with metal tools, as are the decorations of the related cultures at Port Möller, on the north side of the Alaska Peninsula,¹² at Kodiak Island, and in Prince William Sound. Though I did not find any example of the mechanically drawn dot-and-circle in the sites of Kachemak Bay, Cook Inlet, I feel sure that it belongs to the Third Period of the Eskimo culture there, and that future archaeological investigations will discover this element either in Cook Inlet or somewhere else in southwestern Alaska, where corresponding cultures are represented.¹³ It seems more, likely, therefore, that this design element traveled to British Columbia from Bering Strait along with other elements of culture, rather than that the dot-and-circle in British Columbia was an independent Indian invention, as Leslie Spier and Dorothy Smith have argued from its present distribution in northwestern North America.¹⁴

small amounts may have reached St. Lawrence Island at that time. The mechanically drawn dot-and-circle may, therefore, be sixteen or seventeen hundred years old in Alaska. (Collins, "Prehistoric Eskimo Culture on St. Lawrence Island," *The Geographical Review*, XXII, part 1, New York, 1932, pp. 117-118.)

¹ H. I. Smith, "Archaeology of the Thompson River Region, British Columbia," *The Jessup North Pacific Expedition, Memoir of the American Museum of Natural History*, New York, 1898-1900, I, part VI, figs. 360 and 378. ² H. I. Smith, "The Archaeology of Lytton," *Ibid.*, part III, figs. 109-110.

³ James Teit, "The Thompson Indians of British Columbia," *Ibid.*, part V, fig. 296.

⁴ H. I. Smith, "Archaeology of the Yakima Valley," *Anthropological Papers of the American Museum of Natural History*, VI, New York, 1910, fig. 106.

⁵ *Op. cit.*, fig. 120.

⁶ *Op. cit.*, fig. 378.

⁷ *Op. cit.*, fig. 296.

⁸ *Op. cit.*, p. 131.

⁹ H. I. Smith, "Shell Heaps of the Lower Fraser River, British Columbia," *The Jessup North Pacific Expedition, etc.*, 1898-1900, II, part IV, fig. 52, b. ¹⁰ *Op. cit.*, fig. 58.

¹¹ "The Archaeology of Cook Inlet and Prince William Sound," in preparation.

¹² E. M. Weyer, "Archaeological Material from the Village Site at Hot Springs, Port Möller, Alaska," *Anthropological Papers of the American Museum of Natural History*, XXXI, part IV, New York, 1930, fig. 17, b (harpoon head), fig. 17, c (barbed dart head), fig. 19 (slender barbed point).

¹³ Since the above was written, two examples of the dot-and-circle (one with double concentric circles) were found in a Third Period site of the Kachemak Bay culture, during excavations in the summer of 1932.

¹⁴ L. Spier and D. Smith, "The Dot-and-Circle Design in Northwestern America," *Journal de la Société des Americanistes de Paris*, XIX, Paris, 1927, p. 53.

It is quite possible that in the course of its wanderings, the dot-and-circle became divorced from the original metal tools, for native copper would have been a suitable substitute. However, it is not until modern times, when European and American steel have been available in abundance that this decorative design has been able to develop to any great extent.

The true compass-drawn dot-and-circle makes its first appearance in the Bronze Age, for example at Susa, Persia, and in Egypt of the First Dynasty, on gambling bones.¹ In Western Europe this design is also a part of the Bronze Age culture complex. It was apparently always made with metal tools. In Africa, where this pattern is rather common, it is associated with the use of metal. Even though it may be possible, or even easy (?) to execute the design with stone tools, as Spier and Smith argue, and though it may, on occasion, have been so engraved, I know of no occurrence of the mechanically drawn dot-and-circle prior to the use of metal.² Stone tools were only substitutes.

From the appearance of the dot-and-circle at the beginning of the Bronze Age in Scandinavia, as on two antler axe hafts from Denmark, with both the single and the double circle,³ we can trace a continuous distribution across northern Europe and Siberia, to the Aleut and the Eskimo.⁴ The dot-and-circle, curiously enough, does not appear in the East Finmark find, described by Solberg, though it was a popular design all over Europe in the Iron Age and among the modern Lapps. However, it does occur on the bowl of an archaeological spoon from Norwegian Lapland.⁵ The evidence, I suggest, points to a Siberian and ultimately to a Eurasian Bronze Age origin of the Eskimo dot-and-circle. This motif came to Alaska during the Punuk culture stage, along with metal in small amounts, the technique of applying dots to lines and of filling the incisions of the design with paint, — all elements of Siberian art.

The discovery of the mechanical dot-and-circle on a needlecase from the Thule culture site at Inugsuk, West Greenland,⁶ might at first seem to disprove this theory. Mathiassen, however, very plausibly suggests that the Eskimo at Inugsuk learned the design from the Norsemen, with whom they came in contact.⁷ We must remark

¹ Jacques de Morgan, *La Préhistoire Orientale*, II, "L'Égypte et l'Afrique du Nord," Paris, 1928, fig. 327.

² Collins writes: "The Punuk art with its deeply and evenly incised lines and mechanically perfect circles could have been produced by none other than metal tools," (1932, pp. 117-118).

³ A. P. Madsen, *Affaldninger af Danske Oldsager og Mindesmaerker Stenalderen*, Copenhagen, 1868, fig. 25, 3, and Müller, *op. cit.*, II, 1921, fig. 22. This specimen Müller originally published as belonging to the Later Stone Age (I, 1918, fig. 242), but in the second volume of his work, revised his opinion.

⁴ Specimens in the University Museum, Philadelphia, in the National Museums in Copenhagen and Helsingfors, in the Riks Museum in Stockholm; from the Finnish peasants, Lapps, Vogul, Ostyak, Yakut, Tungus, Tartars, Samoyed, Kamchatkans. For the Koryak (W. Jochelson, "Material Culture and Social Organization of the Koryak," Jessup North Pacific Expedition, etc., VI, part II, New York, 1908, fig. 174, and W. Bogoras, "The Chukchi: Material Culture," *Ibid.*, VII, part I, 1904, fig. 197, c). Spier and Smith have argued from the non-occurrence of this design in Chukchi art that the Eskimo design could not have been derived from Siberia, but I think archaeological evidence might reveal it, and its absence today may be due to the recent back-wash into Siberia of the Thule culture, which lacks the design.

⁵ National Museum, Oslo, 17869.

⁶ T. Mathiassen, "Inugsuk, a Mediaeval Eskimo Settlement in Upernivik District, West Greenland," *Meddelelser om Grønland*, LXXVII, Copenhagen, 1930, pl. 14, 1.

⁷ *Op. cit.*, p. 299.

in this connection that these Inugsuk Eskimo also obtained steel from the Norsemen, as has been shown by the analysis of the metal blades of some of their harpoons, which shows the same structure and composition as that of Norse iron.¹

The occurrence of the mechanical dot-and-circle in pre-Columbian Central America and Peru adds complexity to our problem. I am in agreement with the opinion of Spier and Smith that it is of independent origin in this region, and that the design here has nothing to do with its occurrence among the Eskimo. It is significant, however, that only in an area where metal was used did the dot-and-circle develop independently of the Eurasian Bronze Age culture-complex.

Collins believes that the mechanically drawn dot-and-circle of Punuk and modern Alaskan art originated in Alaska out of the free-hand ovals and circles of the Old Bering Sea culture.² However, not only does the European archaeological evidence and the distribution of this design argue against this theory, but an examination of the circles of the Old Bering Sea art proves them to be quite different in character. The ancient figures are circles and ovals, etched free-hand, often lacking the central dot, or having instead a tiny pit, into which was fitted a plug of baleen or some other substance. The circles and ovals are often double, while those of the Punuk stage are always single. It is only in more recent times in Alaska that we get the double, triple, or even more elaborate forms of the dot-and-circle.

However, there has been some connection with the art of the Old Bering Sea culture. It is because the free-hand concentric circles and ovals were used so much in the older period that the mechanical dot-and-circle, coming from Siberia, was adopted so readily by the Punuk Eskimo. The neatness and ease with which it was executed must have been largely responsible for its supplanting the free-hand figure. A second factor favoring the adoption of the dot-and-circle is, I suggest, the similarity in the technique of its production with that of boring the round dot.³ In the early stage of the Punuk culture, in which the Old Bering Sea art had already disappeared, a free-hand circle with round bored dot in the middle is occasionally encountered.⁴ Perhaps this relationship between the round bored dot and the dot-and-circle explains the tendency in modern art for the latter element to usurp the place of the former. Boas, in writing of the art of the Southampton Island Eskimo, says that "more recently this design (the simple dot) has been developed into the circle-and-dot design."⁵ In modern Alaskan art the dot-and-circle often appears as the eye of an animal, which is natural enough, but it also occurs on the back of the animal, in the same manner as the simple dot (Part 1, Plate XXIII B, 14). On an archaeological needlecase from West Greenland, dot-and-circles outline the wings and encircle the tube (Plate XVIII B, 8), as do the dots on the needlecase from North Greenland and the degenerate specimens from the Central Regions. We can see this substitution actually taking place in Punuk art, where dots and dot-and-circles occupy analogous positions on the same specimen (Plate XIX A, 6). The

¹ *Op. cit.*, pp. 299-300.

² Collins, 1929, pp. 38-39.

³ Speck, though inclined to view the dot-and-circle as an Eskimo invention, emphasizes its development as "associated in origin with the intensive use of drill and compasses in working on bone and ivory" (p. 171).

⁴ Information from Henry B. Collins, Jr.

⁵ F. Boas, "Second Report on the Eskimo of Baffinland and Hudson Bay," *Bulletin of the American Museum of Natural History*, XV, New York, 1907, p. 460.

tradition of spurs on the Old Bering Sea circles and ovals (Plate XIX A, 3), and some of the principles of composition have survived into Punuk art. The spurs are still frequently found on the dot-and-circles of modern Eskimo art (Plate XIX A, 5 and Part 1, Plate XXIII B, 14), but the beautiful and elaborate composition is gone.

Thus, there appears to be no connection between the Eskimo dot-and-circle, or the earlier free hand circle, and the Magdalenian circle with dot in the center.

The Spurred Circle

The spurred circle is encountered in Palaeolithic art as well as in that of the Eskimo. On a broken "*bâton de commandement*" from the lower Magdalenian of Gourdan, Haute-Garonne, there are two examples of the spurred circle, with a roughly shaped pit in the center of each (Plate XVIII B, 3). Piette interpreted this design as a sun symbol. He also found at Gourdan a thin bone disk with a hole in the center from which radiated incised lines, and similar specimens were found at Laugerie-Basse and Lourdes.¹ On a lower Magdalenian fragment of a bone blade, from the Grottes des Fées, Marcamp, Gironde, there are two semicircular elements, consisting of double lines, which are spurred (Plate XVIII B, 7). This design offers a rather striking analogy to that on an archaeological comb from East Cape, Siberia (Plate XVIII B, 6). The spurred circle is not uncommon in Alaskan archaeology (Plate XVIII B, 9 and 10),² but it has not been found in the Canadian Thule culture, though we have one example of a spurred oval (Plate XVIII B, 4). It is represented in the Old Bering Sea art, where the spurs are often oblique and seem to frame the circle, though not always (Plate XIX A, 3). This is the form most common in Punuk art (Plate XIX A, 6), where it is associated with the dot-and-circle, and it has even survived into modern Eskimo art (Plate XIX A, 5), though now the dot-and-circle with radiating spurs is common.

The Line with Spurs

The line with spurs in its various forms is one of the most fundamental decorative motifs of both Eskimo and Upper Palaeolithic art. Decorations of this kind may be subdivided into the following types: (1) the line with spurs crossing it, at right angles or oblique, (2) the line with spurs on one side, at right angles or oblique, (3) the line with spurs on both sides, (a) paired and oblique, or (b) alternating, oblique or at right angles. An examination of Eskimo and Palaeolithic specimens shows that these design elements are to a certain extent interchangeable, for not only do we find that a careless artist will often pass from one pattern to another, but even on carefully made specimens we often find two or more variations of the same fundamental design in analogous positions, showing them to be closely related.

The line with spurs crossing it is comparatively rare in both Upper Palaeolithic and Eskimo art. From the former I have only four examples, though more could probably be located. On the bone blade from the Grotte des Fées (Plate XVIII

¹ MacCurdy, II, pp. 217-218; Reinach, p. 89, fig. 5; p. 118, figs. 7 and 8; and p. 136, fig. 13.

² T. Mathiassen, "Archaeological Collections from the Western Eskimos," *Report of the Fifth Thule Expedition 1921-24*, X, no. 1, Copenhagen, 1930, pl. 17, 3, an ornament from Point Hope.

B, 7), all the lines, with three exceptions, are crossed by spurs at right angles, and where the lines converge in the lower part of the figure the spurs alternate between one line and the next, producing an effect like that of the characteristic Eskimo pattern of the double line with alternating internal spurs. On this specimen the pattern changes from the line with spurs crossing it to that of the line with alternating spurs on both sides. The total effect of the decoration on this specimen is very Eskimo-like in character.

On other specimens from the Magdalenian, the line crossed by spurs is shown to be closely related to the line with paired oblique spurs on both sides (Plate XIX B, 7 and 8). An almost identical pattern is found on the bottom of a toy wooden kayak from the Thule site at Button Point, Ponds Inlet, Canada (Plate XIX B, 9). Transverse lines, slanting down from left to right, occur on almost all the little wooden carvings from this site. On a wooden doll we get the same transformation of the line crossed by spurs at right angles into the line with paired, oblique spurs on both sides (Plate XIX B, 11). It is only at Button Point, as far as I know, that the line crossed by spurs is used in this way, so that the similarity between these specimens and those of the Upper Palaeolithic appear to be the result of an accidental parallelism. Moreover, Mathiassen has drawn attention to the fact that the Button Point designs are the product of a local "school."¹

Tchekalenko has argued that in the Upper Palaeolithic the transverse lines used for decoration or for roughening the surface are more often slanting from the left downward than in the opposite direction, because this is mechanically easier to make.² This technical explanation, therefore, weakens the effect of the similarity between the Palaeolithic specimens and those of Button Point, for the transverse lines on these objects may run in the same direction for the same reason.

An Aurignacian paint tube from the cave of Les Cottés, Vienne, France, has an encircling decoration at one end, composed of a line of Xs and a line crossed by oblique spurs (Plate XIX B, 10). As we shall have occasion to observe many times, the placing of a design about an object is very typical of Eskimo art, but is comparatively rare in that of the Palaeolithic.

To my knowledge, the line crossed by spurs does not occur in Maglemosian art, and is very uncommon in the modern art of Northern Europe and Siberia. The only example I can cite from Siberia is a very poorly decorated comb from the Tungus of the Limpusk Tundra.³ The lack of this design element argues against a relationship between the Palaeolithic and the Eskimo examples.

In the Palaeolithic, the line with spurs on one side occurs five times as often with slanting spurs as with spurs at right angles; archaeological specimens from the Alaskan Eskimo show that the two types are of equal occurrence there, while in Canada the line with spurs at right angles predominates. The determining principle in both arts is apparently the same. Whenever the line is used longitudinally the spurs are oblique; when the line runs across the object or encircles it, the spurs are at right angles. In this way, the spurs themselves accentuate the longitudinal direc-

¹ Mathiassen, 1927, I, p. 211.

² L. Tchekalenko, *Étude sur l'évolution de l'ornement géométrique paléolithique*, Ukrainian University, Prague, 1923, p. 46.

³ University Museum, Philadelphia, A 1552.

tion and preserve symmetry. The difference in the proportion of oblique spurs and spurs at right angles is due to the fact that the line with spurs is most often used longitudinally in Palaeolithic art; in the Canadian Thule culture it is most often transverse; while in Alaska both uses are of equal frequency. This same principle is also observable in the art of the Scandinavian stone ages. However, it is such a simple and natural aesthetic device, that it seems rash to advance it as proof of a relationship.

In Palaeolithic art the line with spurs on one side appears most often on long objects,—spear points, shafts of an antler, etc., and it is almost invariably in a longitudinal direction. On some objects we hardly know whether we are dealing with the line with oblique spurs, or whether we have only a series of oblique spurs to which a straight line has been added, (Plate XX A, 1);¹ or the place of the line may be taken by a slight ridge, below which the spurs are incised (Plate XXIV B, 4).

On the most typical examples of the line with spurs we are apt to find the lines paired, with the spurs pointing towards the same end of the implement (on a spear towards the base) (Plate XX A, 4, 6); or the spurs may point towards opposite ends, producing an end-to-end symmetry (Plate XX A, 5). Sometimes the arrangement, while still longitudinal, may be more irregular (Plate XX A, 2).² Slightly more complex arrangements than the simple pairing are also found in the Palaeolithic (Plate XX A, 3 and 7).

These Magdalenian examples may well be compared to those of the Maglemosian. Broholm and Obermaier have called attention to these similarities and believe that the Maglemosian designs are a direct inheritance from the Palaeolithic.³ The fragment of an axe (?), from Illebølle, Langeland, Denmark,⁴ is very similar to a fragment of antler from Le Placard,⁵ and numerous examples of the line with oblique spurs could be cited from the Danish Maglemosian.⁶ The motif has also been found at Braband, a station intermediate in culture between the Maglemosian and the Kitchen-Midden.⁷

The pairing of lines with spurs, such as we have found in the Magdalenian, is not very common in Eskimo art. Assymetric balance, with the spurs on the same side of both lines, or pointing in opposite directions, does not seem to appeal to Eskimo taste, which shows a preference for patterns with a right-and-left symmetry. This principle we see in the ornamentation of the Alaskan "flanged" needlecases, particularly on the longitudinal lines bordering the concave area between the flanges. There is a tendency to decorate these lines with oblique, downward slanting spurs, an impulse which is probably connected with the conventional ending of the lines

¹ Piette, pl. XXIII, 1.

² For example, an upper Magdalenian antler from Mas d'Azil (Piette, pl. XCIV, 1), an upper Magdalenian pendant from Lorthet (Piette, pl. XXXIX, 6).

³ Broholm, p. 98, and H. Obermaier, *Der Mensch der Vorzeit*, Berlin, 1912, p. 468.

⁴ Müller, 1918, fig. 19.

⁵ Reinach, p. 171, fig. 5.

⁶ Bone fragment from Maglemose (G. L. Saraw, "En Stenalders Boplads i Maglemose ved Mullerup, Sammentholdt med Beslaegtede Funde," *Aarbøger for Nordisk Oldkyndighed og Historie*, Det Kongelige Nordiske Oldskift Selskab, second series, XVIII, Copenhagen, 1903, fig. 44), piece of antler from Svaerdborg (Broholm, fig. 51), a similar antler from Taarbeck, Lyngby (Müller, 1918, fig. 6), a bone point from the baths of Winther at Copenhagen (Müller, 1918, fig. 23), and an antler axe from Refsvindinge, Uinding Herred (Müller, 1918, fig. 18).

⁷ Müller, 1918, figs. 14, 15, and 31.

in an inverted Y or a "tree" figure (a Y with central stem prolonged). These lines are usually grouped in pairs on both sides of the concave areas (Plate XX A, 9). A similar pairing of lines with spurs occurs on archaeological harpoon heads from Alaska (Plate XX A, 10 and 11). An example of the line with spurs, unusually asymmetric for Eskimo art, is on an archaeological thimble-holder from Point Hope, on which the line with spurs is balanced with the double line with little hatched areas. The spurs are on the side of the line next the edge of the implement, in itself an uncommon feature (Plate XXIII B, 6). A modern Alaskan thimble-holder exhibits a very typical and symmetrical design, the central element of which is the line with spurs on both sides, flanked by lines with spurs on one side only. All the spurs slant downwards (Plate XXI A, 7).

Not all the specimens in the Upper Palaeolithic have the line with spurs applied longitudinally, though this is by far the most common arrangement. The only striking exceptions which I can cite are a pendant from the Magdalenian station of Kesslerloch, Switzerland, which is encircled with lines with spurs at right angles (Plate XIX B, 6), and an elaborate pendant from the middle Magdalenian of Mas d'Azil, which has encircling lines with spurs at right angles about the bottom (Plate XIX B, 3). The composition of the design on this second pendant is very similar to that found in Eskimo art.

Among the Eskimo, decorations like those just discussed are very common, and appear on beads, both archaeological and modern (Plate XIX B, 5),¹ on an archaeological knife-handle from Point Barrow,² a "winged" needlecase from Qilalukan, a Thule site at Ponds Inlet, northern Baffinland,³ on the little bear figure from the same site (Part 1, Plate XXII B, 2), on bird bone needlecases from Alaska, both ancient and modern⁴ (Plate XIX B, 2 and 4), and on many modern Alaskan objects.⁵

Bands of neatly made transverse lines, one of which has spurs cut precisely at right angles, are characteristic of a school of art found in Punuk culture sites, though distinct in some ways from the typical Punuk school (Plate XIX B, 1). That this school has Siberian affinities is suggested by the similarity of patterns on a Koryak reel,⁶ and the ivory pipe from Kamchatka decorated with bears and other figures (Part 1, Plate XXII B, 5). Influence of this style is felt in modern Alaskan art (Plate XIX A, 5).⁷

From the ancient Magdalenian of Le Placard is a dart head (?) decorated near the point and near the butt by two short, converging but not meeting, oblique lines, on the lower sides of which (i.e., on the inside of the V) are oblique spurs, pointing downward (Plate XX B, 1). The neatness as well as the shape and arrangement of the design remind us of Eskimo art, though there is no perfectly analogous specimen with which to compare it. The decoration is given a precise character by the fact that the spurs start from the very ends of the lines. Decora-

¹ See also Mathiassen, 1927, I, pl. 31, 8, and National Museum, Copenhagen, P 25, 107.

² Mathiassen, 1930, pl. 10, 3.

³ Mathiassen, 1927, I, pl. 52, 2.

⁴ Collins, 1929, pl. 18, g, and Hoffman, pl. 52.

⁵ A bodkin from the Yukon (Collins, 1929, pl. 18, d); a snuff box from Hotham Inlet (Hoffman, pl. 65, 3); a bone knife from Norton Sound (Hoffman, pl. 15, 3).

⁶ Jochelsen, fig. 191, a.

⁷ See also a workbag fastener from the Kuskokwim (Collins, 1929, pl. 19, d), and a bodkin from the Yukon (Hoffman, pl. 54, 2).

tive units, somewhat similar, appear on Danish amber pendants of the New Stone Age, though here the spurs are much longer in proportion, and a variation is effected by combining spurs of different lengths (Plate XX B, 9). The closest parallels in Eskimo art are found in the decoration of the Thule combs with long, rectangular handles (Plate XX B, 4 and 8). A similar, though simpler design appears on an archaeological thimble-holder from Point Barrow.¹

Though we have noted similarities between Palaeolithic and Eskimo use of the line with spurs, we must remember that the Eskimo, both in ancient and modern times, employ this element as a border, outlining the whole object or a part of it (Plate XX B, 7), and that borders are almost unknown in the Upper Palaeolithic. On an archaeological ulo handle from Point Barrow there is a line like a border along the top of the handle, on the lower side of which are spurs grouped in twos and threes, with a little whale's tail in the middle, like an inverted Y (Plate XX B, 2). This grouping of spurs appears to be characteristic of Alaska, as opposed to the east. It is not common in the Magdalenian, but from Espélugues, Lourdes, there is a blunt point of antler with a line running up the middle, on one side of which are very long spurs in groups of three (Plate XX B, 3).

We have already noted that in the Maglemosian the line with spurs on one side is used longitudinally in the same way as in the Magdalenian. In the Megalithic, or Later Stone Age, the line with spurs is almost always transverse, or encircles the object, which is the commonest style in Eskimo art.² A triangular plaque of bone from the Danish Neolithic has a border decoration like that on the archaeological combs from Alaska (Plate XX B, 5). The line with spurs does not appear in the Lapp Iron Age find from East Finmark. Though it appears on modern Lappish and Siberian objects, it occupies a very inconspicuous place in the design, usually occurring transversely, and at the edge of the pattern.

The decorations employing the line with spurs on one side show an evolution from the Palaeolithic through the Scandinavian Stone Ages towards the Eskimo uses of this element, and offer us the best argument we have yet encountered for a relationship between Eskimo and Palaeolithic art.

The line with alternating spurs on both sides is a characteristic, though not very common Eskimo decoration. It was used in the Thule culture (Plate XXIV A, 6) and in the Punuk culture, where it was combined to produce bands of the double line with alternating internal spurs³ (Plate XXIV A, 2). It is found on a needle-case in the Van Valin collection from Point Barrow,⁴ and on modern Alaskan snuff tubes, needlecases,⁵ and on other articles (Plate XXIV A, 4 and 10). However, this design is extremely rare in the Upper Palaeolithic. It occurs, but only through accident, on the base of a semi-cylindrical implement made from an antler from the upper Magdalenian of Bruniquel,⁶ and on a bone plate from the Grottes des Fées, Marcamp (Plate XVIII B, 7).

¹ The National Museum, Copenhagen, P 15, 196.

² Müller, 1918, figs. 55 and 241; also specimens in the National Museum, Copenhagen.

³ Collins, 1929, pl. 17, h and g.

⁴ J. A. Mason, "Excavations of Eskimo Thule Culture Sites at Point Barrow, Alaska," *Proceedings of the XXIII International Congress of Americanists*, 1928, New York, 1930, fig. 1.

⁵ Hoffman, pl. 52.

⁶ Breuil, 1913, fig. 29, 4.

The line with alternating spurs on both sides is found on a Maglemosian implement made from an antler, resembling a "*bâton de commandement*," from Klein-Machnow, near Berlin. The decoration consists of the double line with alternating internal spurs, with black paint rubbed into the cuts, and has a very Eskimo like character.¹ The line with alternating spurs also occurs in the Later Stone Age of Denmark, where it seems to have developed out of the line with spurs on one side only, with which it is closely associated.² It is found on an arrow from East Prussia, contemporaneous with the Arctic Stone Age.³ In the Lapp Iron Age dots applied to the sides of a line produce an analogous effect.⁴

Thus, at best, we can find evidence for only a Maglemosian origin for this design element. It seems unlikely, however, that this should be the original of the Eskimo pattern, in view of its rarity in Siberian art.

The line with oblique spurs on both sides apparently offers close parallels between Palaeolithic and Eskimo art, not only in the forms and variations of the motif, but in the composition. We can recognize various subdivisions of the pattern: (1) the medial line is fairly long with oblique spurs on both sides, pointing in the same direction, and no particular attention is given to the ends, (2) an end-to-end symmetry is obtained because all the spurs on one half of the line point in one direction, while those on the other half point towards the other end, (3) the line is quite short, and the ends are important. In this group should be placed the Y and "tree" patterns of the Eskimo and the Palaeolithic "arrow" figures. The spurs are not always evenly spaced in these designs, but pleasing variations may be produced by groupings.

Under the first head, we can mention the slender point from Lespugue (Plate XIX B, 8), which we compared to the wooden kayak from Button Point, the very fine middle line on the bone plate from the Grottes des Fées (Plate XVIII B, 7), and two Magdalenian bone disks from Bruniquel and Kesslerloch (Plate XXI B, 2 and 3). From the Magdalenian of Espélugues, Lourdes, this design is applied longitudinally to a bird bone needlecase (?) (Plate XXI B, 1), to a piece of antler,⁵ and to a flat slab of bone.⁶ We have already noted the association of this motif with the line crossed by spurs on a stick of antler from Mas d'Azil (Plate XIX B, 7). A more sketchy rendering of this design, in which the lines do not quite touch each other, is found on a barbed point ("harpoon"), from the final Magdalenian (Plate XXI A, 2). A fragment of a spear point (?) from the lower Magdalenian of Le Placard has apparently the same design.⁷ On a slender bone point from Lorthet the line with oblique spurs on both sides passes over into the line with oblique spurs on one side only, owing to the omission of some of the spurs (Plate XXI A, 6), and a similar error is found on a Chukchi toggle (Plate XXI B, 5). Below the line on the specimen from Lorthet are two detached chevrons, suggesting a continuation of the line with spurs. A similar combination occurs on a slate pendant from the Thule culture (Plate XXI A, 5). On a "*bâton de commandement*" from the upper Magdalenian of Raymondin, decorated with whale tails (Part I, Plate XXI B, 2), the line

¹ Obermaier, 1912, fig. 286.

² Antler hammer from Fredbjerg (Müller, 1918, fig. 55).

³ Brøgger, fig. 155.

⁴ Knife handles (Solberg, figs. 96 and 97).

⁵ Piette, pl. XXIV, 9.

⁶ *Op. cit.*, 6.

⁷ Breuil, 1913, fig. 18, 4.

with spurs is a little irregular because there are more spurs on one side than on the other. It ends in a Y.

Examples of the line with oblique spurs on both sides are very common in Eskimo art, both on modern and on archaeological specimens. It is commonly used longitudinally (Plate XXI B, 4), and often, as on the modern Alaskan thimble-holder (Plate XXI A, 7), it forms the central element of the design. The spurs may be grouped by twos or threes, in the characteristic Alaskan fashion (Plate XXI B, 10).¹ An archaeological comb from Point Atkinson, Canada, shows how closely related the line with oblique spurs on both sides is to the Y and the V figures (Plate XXII A, 10).

A Magdalenian engraving from Laugerie-Basse (Plate XXI B, 11), supposed to represent a plant,—an interpretation which may well be questioned,—is comparable to the Alaskan specimens with grouped spurs. It is similar in style to the blunt point of an antler from Lourdes, with grouped spurs on one side (Plate XX B, 3).

A defective archaeological harpoon head from Southampton Island, Canada (Plate XXI A, 3), resembles the barbed point from La Madeleine (Plate XXI A, 2), in that the spurs do not touch the central line, and that the central line does not run the entire distance. This is also true of the design on the edge of a hook in the Van Valin collection from Point Barrow (Plate XXI A, 4).

On both Palaeolithic and Eskimo specimens the line with oblique spurs is given an end-to-end symmetry. The spurs may point towards the middle of the line (Plate XXI B, 8), or towards the ends (Plate XXI B, 6, 7, 9). In Eskimo art this is closely related to the double-ended "tree" and Y figures, which we will discuss presently. On the Chukchi buckle, already mentioned (Plate XXI B, 5), there is an attempt at this type of decoration.

In the Magdalenian we find the line with spurs on both sides shortened into "arrow"-shaped figures. That sometimes these designs may actually symbolize barbed points, is suggested by the figures of animals with barbed points on their flanks, painted in the cave of Niaux (Plate XXII A, 1). On the sides of the feline figure from Isturitz (Part I, Plate XXII B, 7), which Rivet has compared to the Eskimo *ajagaq* in the shape of a bear,² there are similar decorations, with from three to four pairs of barbs. These may well symbolize the barbed weapons used in real hunting, whose roll was taken by the pin used to pierce the figure in the game or ritual. In an upper Magdalenian burial, in the cave of Duruthy at Sordes, Landes, was found a necklace of bear's canine teeth. Saint-Périer suggests that these teeth may originally have served as fish lures.³ On them are a series of "arrow" decorations, with from one to four pairs of "barbs" (Plate XXII A, 2 and 3). One of the teeth has a fish engraved on one side (Part I, Plate XXIII B, 1), on the other is a short line with two sets of spurs, as if pointed at the hole for suspension. Another

¹ Grouping by twos on a thimble-holder from St. Michaels, Alaska (Hoffman, pl. 35, 3); by twos and by threes on a shaft straightener from Nubiachugalik, Alaska (*Ibid.*, pl. 8, 2).

² P. Rivet, "Interpretation ethnographique de deux objets préhistoriques," *Congrès International des Americanistes, XI Session, Part II, Göteborg, 1925.*

³ R. de Saint-Périer, "Engins de pêche paléolithiques," *L'Anthropologie*, XXXVIII, Paris, 1928, p. 18.

tooth has the figure of a seal on one side, and an "arrow" with three pairs of "barbs" on the other side (Plate XXII A, 2a). If the teeth were merely pendants, the designs are, no doubt, purely decorative; but if they were used as fish lures, or had some significance as amulets, the figures may be symbols of barbed spears. It is interesting to note that a design of the same kind is incised on a human tooth, with hole for suspension, from the Aurignacian cave of La Combe, Dordogne (Plate XXII A, 4).

The "arrow" lacking the shaft, or rather a V with medial prong, appears on upper Magdalenian implements from Bruniquel (Plate XXII A, 7). On one specimen these elements are used like spurs along a longitudinal line (Plate XXII A, 6).

Ordinarily the line with spurs on both sides is not abbreviated in Eskimo art into the forms which we have just observed in the Magdalenian. However, on a modern Alaskan hair ornament (Plate XXII A, 8) there is a figure almost identical with that on the human tooth from La Combe, or the tooth with the engraving of a fish from Sordes. On two pendants in a comparatively modern Aleutian necklace, there are encircling lines with groups of three diverging spurs, like those on the semi-cylindrical implement from Bruniquel (Plate XXII A, 6).

In Eskimo art the line with spurs on both sides is usually shortened into what Hoffman calls the "tree" figure.¹ In Alaska we find every stage represented, from the long line with many spurs to the simple Y. In the Canadian Thule culture, the simple Y is by far the most common, and we lack the typical "tree" figure, or Y with central prong. In fact the only archaeological examples of the line with oblique spurs on both sides from Canada are on the slate pendant from Naujan (Plate XXI A, 5), and the wooden toys from Button Point (Plate XIX B, 9 and 11). Mathiassen has, therefore, argued that the Y figure was derived from the "tree" figure, and that this simplification took place in Alaska before the eastward spread of the Thule culture.² Alaskan examples of the various forms of the "tree" and Y figures show that they were used in the same way. The most common type of decoration is a series of "trees," or Ys, "growing" from a longitudinal, or bordering line, after the fashion of simple spurs (Plates XVIII B, 10, XXII A, 11, and XXII B, 4). This is true of archaeological as well as modern specimens. A bone knife from Norton Sound has the simple Y and the Y with medial spur in exactly analogous positions (Plate XXII A, 12).

The Y figure is quite rare in Punuk art. Collins finds, however, a Y-shaped element of double lines, connected to other lines at the base and at the end of the prongs.³ This double Y plays such a different role from that of the simple Y that I do not think there can be any close relationship. However, the pure Y does occur sometimes, as on a harpoon head from Cape Kialegak, St. Lawrence Island (Plate XXII B, 3), and on a knife handle from Punuk.⁴

The simple Y rising from a line is not uncommon in the Canadian Thule culture, where it also occurs flanked by, or alternating with, simple spurs (Plates XXII A, 9 and XXIV A, 6). From a Thule site on Belcher Island on the east coast of Hudson Bay, there are three ornamental ivory plates with borders consisting of lines from

¹ Hoffman, p. 829.

² Mathiassen, 1927, II, pp. 123-124.

³ As on an ornamental plate from Punuk (Collins, 1929, pl. 11, g). ⁴ Collins, 1929, pl. 17, a, p. 31.

which spring rows of Ys. On the first of these the Ys are detached so that their true character can be recognized,¹ but on the other two (Plate XXII B, 5)² the Ys are so close together that the prongs touch, giving the effect of a zig-zag line, connected at intervals with a parallel straight line.

The Y also occurs free and detached, chiefly as a decoration on harpoon heads, with the prongs pointing downward, just above the line hole. Harpoon heads so decorated are very common in the Canadian Thule culture (Plate XXII B, 1 and 2), and have also been found at archaeological sites in northern Alaska and at East Cape, Siberia.³ Collins, however, is of the opinion that this type of decoration in harpoon heads is fairly recent in Alaska.⁴ I think that the Y on the Punuk harpoon head from Cape Kialegak represents the influence of the Thule culture, or of a related culture stage in the north, upon the local Punuk style of St. Lawrence Island.⁵ One of the holes on a trace buckle from Naujan is decorated with a Y just like the hole on a harpoon head.⁶ The unattached Y is comparatively rare on objects other than harpoon heads, though it does occur on an archaeological thimbleholder from Point Barrow,⁷ and on the archaeological comb from Point Atkinson (Plate XXII A, 10).

The double-ended Y appears on the bottom of an archaeological fat scraper from Point Barrow,⁸ and on a modern sinew twister from Alaska.⁹ The double-ended Y with the prongs attached at the top and bottom is very common on modern Central Eskimo needlecases of caribou leg bone. Two short longitudinal lines, parallel to the stem of the Y, are often added (Plate XXII B, 7). The unattached double-ended Y with the short parallel lines is repeated several times on a pair of wooden snow goggles in the British Museum collection from the Coppermine River, and a similar design is found on a modern quiver handle from King William Land (Plate XXII B, 10).

If we have dwelt on the "tree" and the Y figures at such length, it has been to show how very important they are in Eskimo art. The almost complete lack of them in Palaeolithic art certainly furnishes a strong argument against the theory of a Palaeolithic origin of the Eskimo designs. However, a few parallels can be noted. The series of Ys or "trees" on a line is completely lacking in the Palaeolithic as a purely geometric motif, but Ys on a line are employed to indicate the markings on one of the salmon in the famous engraving from Lorthet (Part I, Plate XXII A, 5).

¹ Mathiassen, 1927, I, pl. 77, 10.

² And on the unpublished specimen, the National Museum, Copenhagen, P 22, 8.

³ From Naujan (Mathiassen, 1927, I, pl. 1, 2, 3, 5, 9, and 11); from graves near Naujan (*Ibid.*, pl. 37, 2, 3, 4, 5); from Kuk, Southampton Island (*Ibid.*, pl. 69, 3 and 5); from Point Atkinson (Mathiassen, 1930, pl. 1, 1 and 2); from Point Hope (*Ibid.*, pl. 12, 1); from East Cape (*Ibid.*, pl. 18, 4) (cf. C. Wissler, "Harpoons and Darts in the Steffanson Collection," *Anthropological Papers of the American Museum of Natural History*, XIV, Part I, New York, 1914, figs. 7, 8, and 21, from Point Barrow).

⁴ Collins, 1929, p. 44.

⁵ Another example of the influence of the Thule, or of a related culture, upon the Punuk culture, is the appearance on St. Lawrence Island in the second half of the Punuk period of the Thule house, built of stones and whale bones (H. B. Collins, "Ancient Culture of St. Lawrence Island, Alaska," *Explorations and Field-Work of the Smithsonian Institution in 1930*, Washington, 1931, p. 142).

⁶ The National Museum, Copenhagen, P 1, 599.

⁷ *Ibid.*, P 15, 515.

⁸ The National Museum, Copenhagen, P 15, 181.

⁹ Specimen in the American Museum of Natural History, New York.

The double-ended Y occurs on a large Magdalenian "*bâton de commandement*" from Laugerie-Basse,¹ just below the hole, and suggests the decoration of the hole on Eskimo harpoon heads. The double-ended Y with short lines parallel to the stem is incised on the beveled base of a short weapon point from the early Magdalenian of Mas d'Azil (Plate XXII B, 6). The position of the figure suggests that it was not a decoration but was used to roughen the butt for hafting; however, there are other instances of neatly incised figures in the same place on similar points. A double-ended Y with only one short parallel line is incised on one of the bear's teeth in the necklace from Sordes (Plate XXII B, 9), and the same design is said to be found on a piece of antler from La Madeleine.² On an antler chisel from the lower Magdalenian of Le Placard two detached spurs at the end of a line give the impression of a Y (Plate XXII B, 8). The "background" of the figure of the man with a stick, from La Madeleine (Part I, Plate XXI B, 1), might be compared to the border on the ivory plates from Belcher Island (Plate XXII B, 5).

We might be tempted to argue that the simplifications in Eskimo art of the line with oblique spurs on both sides are derived from the Palaeolithic motifs; that for example, the radiating lines with spurs on both sides, on the bone disk from Kesslerloch (Plate XXI B, 3), form the prototype from which analogous Eskimo decorations have sprung, as on the archaeological stone disk from Point Hope (Plate XVIII B, 10), and the ivory button from Naujan with radiating Ys (Plate XVIII B, 4). An intermediate stage would have to be found, and we might cite the Y and the line with oblique spurs on both sides in the Megalithic pottery of Sweden, where these two elements appear incised vertically, and horizontally in vertical bands, in analogous positions.³ However, we are not able to show a gradual evolution, for in the Lapp Iron age a stage of simplification more extreme than that of Eskimo art has been reached, since only the simple Y is found. It occurs free and detached,⁴ rising from lines,⁵ and radiating from the angles of rhomboids.⁶ The use of the Y figure is probably connected with the common pattern of two longitudinal lines which diverge at the very ends.⁷

Though the series which we have suggested might be taken as proof of a Palaeolithic origin of the Eskimo "tree" and Y figures, the rarity of such design elements in Siberian art certainly constitutes a formidable gap.

The Double Line with Cross Lines ("Ladder" Pattern)

This is one of the few decorative elements of the Upper Palaeolithic which enters into combinations and arrangements comparable to those of Eskimo art. In the Palaeolithic the cross bars are usually at right angles to the double lines. The simplest use of this pattern is longitudinally up the side of a long shaft or similar

¹ P. Girod and E. Massenat, *Les Stations de l'âge du renne dans les vallées de la Vézère et de la Corrèze; Laugerie-Basse*, Paris, 1900, pl. XCIII, 1.

² L. Lartet and C. Duparc, "Sur une sépulture des anciens troglodytes des Pyrénées," *Matériaux pour l'histoire primitive et naturelle de l'homme*, tenth year, second series, V, Paris, 1874, p. 139, but no reference is given.

³ J. Nihlén, *Gotlands Stenåldersboplatser*, Stockholm, 1927, figs. 11 to 17 and 111.

⁴ Solberg, figs. 34, 35, 64, 83, and 197.

⁵ *Ibid.*, figs. 85 and 148.

⁶ *Ibid.*, figs. 112 and 148.

⁷ *Ibid.*, fig. 107.

object (Plate XXIII A, 1).¹ On a "*bâton de commandement*" from the cave of Les Espéluques, Lourdes, the cross bars on the "ladder" pattern are grouped, though irregularly (Plate XXIII B, 2), a device very common in Eskimo art, though somewhat unusual in the Palaeolithic. On other Palaeolithic specimens, the transverse lines may be oblique (Plate XXIII A, 2). On an implement made from an antler, from the middle Magdalenian of Espéluques, Lourdes, the double lines are so far apart that the "ladder" covers one whole side, and I am not sure whether the incisions are intended to be decorative or are to roughen the surface for some useful purpose (Plate XXIII A, 3). On a slender Magdalenian shaft from Laugerie-Basse, there is the same spread-out form of the "ladder" design, except that instead of the double lines, a wide groove has been incised, in which the cross bars are cut.² The combination of a simple engraved pattern with elements in low relief is very characteristic of the Magdalenian, especially in the final stages, and is one of the ways in which this art differs greatly from that of the Eskimo.

In the Palaeolithic, the "ladder" is also employed transversely or encircling a cylindrical object, where it may be arranged in bands to form a pattern of squares (Plate XXIII A, 8 and 11). A "ladder" with irregularly spaced cross bars encircles the shaft of an upper Magdalenian "*bâton de commandement*" from Mas d'Azil (Plate XXIII B, 3). The design also appears on a late Magdalenian "*bâton*" from Kesslerloch, in a frame about the holes (Plate XXIII B, 1). The cylindrical pendant from Mas d'Azil (Plate XIX B, 3), and a somewhat similar object from the lower Magdalenian of Gourdan (Plate XXIII A, 6), are decorated with the "ladder" pattern in an arrangement which we have already mentioned as being very Eskimo-like in style.

On an ornamental ivory plate from the lower Magdalenian of Lorthet, the "ladder" element appears as the degeneration of the double line with paired internal spurs (Plate XXIII A, 7). On the pendant from Mas d'Azil there is the same merging of these two decorative elements.

The simple "ladder" is found in the Canadian Thule culture, from which, however, I have only one good example (Plate XXIII A, 9). It is found in the art of the Old Bering Sea culture,³ on archaeological specimens from northern Alaska (Plate XXIII A, 12), and in modern Eskimo art (Plate XIX B, 4), though I know of no example from the Punuk culture. On a modern Alaskan snuff tube or needlecase on which several elements of the ladder pattern coincide, the cross lines are alternately placed (Plate XXIII A, 10). This specimen should be compared to the ivory cylinder from Brassempouy (Plate XXIII A, 8), on which, however, the cross lines have no regular arrangement with reference to each other. As an example of oblique cross lines in Alaskan art, we may cite a modern bow drill from Point Barrow (Plate XXIII A, 4).

In Eskimo art there is a common tendency towards grouping the cross bars, as on

¹ See also the design on a composite dart from the cave of Tuc d'Audubert, Ariège (Comte Bégouin, "*L'Art mobilier dans la caverne du Tuc d'Audubert (Ariège)*," *IPEK*, Leipzig, 1926, pl. 4, 9); and on a Magdalenian throwing stick from Kesslerloch, Switzerland (Conrad Merk, *Excavations at the Kesslerloch near Thayngen, Switzerland*, trans. by J. E. Lee, London, 1876, fig. 42).

² Lartet and H. Christy, *Reliquiae Aquitanicae*, etc., Paris, 1865-1875, pl. B XXIII, 2.

³ With both vertical and oblique cross bars; information from Henry B. Collins, Jr.

an archaeological brow band from Point Hope,¹ and a modern kantag handle from Iskaktolik, Alaska (Plate XXIII B, 4). Apparently the only form of the "ladder" design in the Punuk culture is found on objects typical of what we have called the second "school" (see page 87), in which the lines are double, and are connected by double cross lines (Plate XXIII B, 7).² An archaeological thimble-holder from Point Hope (Plate XXIII B, 6), and another from Kitikarjuit, the Mackenzie Delta, Canada,³ have double lines with cross lines, but the cross lines are so close together that we hardly know whether we are dealing with the "ladder" pattern, or with the related motif of the double line with alternate blank and hatched spaces. The same difficulty applies to the border on an archaeological comb from Point Hope.⁴

On most of the specimens from the central regions on which this design occurs there is no doubt but that we have the double line with hatched and blank fields (Plates XXIII B, 5 and XXIV A, 6). The hatching may be plain or cross hatching, and it is the same as that used to fill in the silhouetted figures of men, animals, etc. It also occurs, though rarely, in the art of the Old Bering Sea period.⁵

The double line with alternate blank and hatched areas is not found in Palaeolithic art, and the only parallel for it in European archaeology is found in the hatched checker-board figures of the Maglemosian. The simple "ladder" pattern, with oblique cross lines, also occurs in the same period.⁶ The "ladder," both with evenly spaced and grouped cross bars, is common in the ceramics of the later periods in Scandinavia, and elsewhere. The "ladder" is not very important in modern Siberian art, though it has a wide and somewhat sporadic distribution in northern Eurasia. Among the Vogul and Ostyak, the birchbark baskets are often decorated with bands of this design element, the cross bars grouped by twos and threes.⁷

The Double Line with Alternating Internal Spurs

This decorative motif, called by Hoffman the "seal tooth or fish trap ornament," is perhaps the most important single element in Eskimo art. It occurs in the Thule culture of Greenland and Canada; it is represented in archaeological collections from northern Alaska, and is found in Punuk art, even in its earliest stages, together with the freehand circle with round bored central dot,⁸ (though it is not typical for that period). It is very common on modern Alaskan objects. It is lacking, however, in the art of the Old Bering Sea culture. This design element has been employed to decorate almost every type of object except the harpoon head. We find it employed in longitudinal lines (Plate XXIV A, 1); it may encircle objects (Plates XXIV A, 1, 8 and XX A, 9); it forms borders (Plates XXII B, 4 and XXIV A, 3);

¹ The National Museum, Copenhagen, P 16, 817.

² See also a somewhat similar object from the upper Bering Sea region (A. Hrdlička, "Anthropological Survey in Alaska," *Forty-Sixth Annual Report of the Bureau of American Ethnology*, 1928-29, Washington, D. C., 1930, pl. 25, 3).

³ The National Museum, Copenhagen, P 17, 1498.

⁴ *Ibid.*, P 16, 1415.

⁵ Information from Henry B. Collins, Jr.

⁶ See a spear point, Danish Maglemosian (Madsen, 1868, fig. 40, 1), and a bone implement from Stensby, Denmark (Müller, 1918, fig. 22).

⁷ Specimens in the National Museum, Helsingfors, the Riks Museum, Stockholm, etc.

⁸ Information from Henry B. Collins, Jr.

it occurs in transverse lines (Plates XXII A, 11 and XXIV A, 4); or as transverse elements in a longitudinal band or border (Plate XXIV A, 7); it may form circles or arcs (Plate XVIII B, 6, 10); it frequently serves as the base for a series of Ys or "tree" figures, or for simple spurs (Plates XVIII B, 10, XXII A, 11 and B, 4, and Part I, Plate XXIII B, 16).

Occasionally in Eskimo art we find examples of the double line with paired, not alternating spurs (Plate XXIV A, 5). It is apparently a degenerate form of the double line with internal alternating spurs. We have already mentioned a few examples of this same pattern in Palaeolithic art, where it is associated with the "ladder" pattern (Plate XXIII A, 7). However, this element is rare in the art of both peoples.

While we can hardly imagine Eskimo art without the double line with alternating internal spurs, we find this element completely lacking in Palaeolithic art, unless we accept as examples the few instances where it occurs by accident, as when spurs along the edge of a figure are brought together, and alternate by accident.¹ The only intentional use of a design similar to that of the Eskimo is on the ivory "peg" from Brassempouy, which is decorated about the head with a band of two raised ridges, the edges of which are alternately nicked (Plate XXIV A, 9). Vertical ridges, similarly nicked, cover the head. The resemblance to anything in Eskimo art is thus not very close.

The earliest example of this decorative motif is on the antler implement, resembling a Magdalenian "*bâton de commandement*," from a Maglemosian site at Klein-Machnow near Berlin. The incisions are filled with soot-blackened pitch. This design, however, is not characteristic of the Maglemosian. If we attempt to follow its distribution, we shall find it on an antler hammer from the Danish Megalithic period,² an arrow head from East Prussia of a type related to those of the Arctic Stone Age, and on Megalithic pottery in Denmark.³ This design is lacking in the Lapp Iron Age find from East Finmark, except on one of the newer specimens, on which, however, dots are substituted for the usual spurs.⁴ A comb for making ribbons from a late Iron Age find (tenth century A.D.) from the Island of Björkö, Stockholm, is decorated with the double line with alternating internal spurs, as well as compass-drawn circles, so that the design looks strikingly Eskimo in character.⁵ The double line with alternating internal spurs has a wide distribution all over northern Eurasia, from the Lapps to the Chukchi. It appears to play the same rôle in Lappish and Siberian art that it does in that of the Eskimo, the only difference being that in some cases, under the influence of the gouged triangle ornamentation so popular in Siberia, the spurs are enlarged until they almost become little triangles. However, even though we may be able to prove a very early Eurasian origin for this Eskimo design, we can not claim for it a Palaeolithic beginning.

¹ As on an incised figure of a seal, upper Magdalenian, Laugerie-Basse (Breuil, 1913, fig. 29, 6).

² Müller, 1918, fig. 55.

³ H. Rydh, "On Symbolism in Mortuary Ceramics," *Bulletin I, The Museum of Far Eastern Antiquities*, Stockholm, 1929, pl. III, 3.

⁴ Solberg, fig. 190.

⁵ H. Stolpe, "Sur les découvertes faites dans l'île de Björkö," *Congrès International d'Anthropologie et d'Archéologie Préhistoriques*, Stockholm, 1874, II, Stockholm, 1876, fig. 12.

Zig-zags and Chevrons

Chevrons or Vs and zig-zag lines play a large rôle in Palaeolithic art, but they are of little importance in Eskimo decoration. In the Palaeolithic, chevrons may be incised in longitudinal rows, one above the other, or side by side, making broken zig-zag lines; or they may be combined in both ways at once, producing all-over patterns. The various short strokes may not be connected, and this is typical of the sketchy character of Palaeolithic art. Longitudinal lines of Vs are very common (Plate XXIV B, 4). One of the bear teeth from Sordes is decorated with three bands of Vs, enclosed in double lines.¹ Chevrons, with or without the bordering lines, are used to indicate the teeth on the cut-out horses' heads, typical of the middle Magdalenian.²

The chevron is very rare in Eskimo art. It occurs on the stone pendant from Naujan (Plate XXI A, 5), on the archaeological comb from Point Atkinson (Plate XXII A, 10), and occasionally appears in modern Alaskan art.³

Closely related to the chevron in Palaeolithic art is the zig-zag line. Single zig-zags are a common longitudinal decoration (Plate XXIV B, 1), and may also appear enclosed between two bordering lines (Plate XXIV B, 6). Like the chevron, the zig-zag may indicate the teeth on the horses' heads of the middle Magdalenian.⁴

The simple zig-zag is extremely rare in Eskimo art, and to my knowledge is not found on archaeological specimens.⁵ The zig-zag between two bordering lines is common, however, on needlecases and bone implements for marking skins from King William Land.⁶

In the Palaeolithic, double, triple and multiple zig-zag lines and bands are common (Plate XXIV B, 5). Two lines of zig-zags may combine to form lozenges (Plate XXIV B, 2). Nests of chevrons, placed side by side, combine to form bands (Plate XXIV B, 3). From the Solutrean station of Předmořt we have several examples of objects covered by an all over pattern of zig-zags and chevrons, formed by disconnected lines.⁷

There are few Eskimo examples comparable to these. The double zig-zag line between borders is found in the Punuk culture (Plate XXIV B, 7), but the border lines cut off the edges of the zig-zag, so to speak, so that only the lines on the insides of the angles meet. A modern needlecase from King William Land (Plate XXIV B, 8) is decorated with a combination of spurs and zig-zags, very similar to analogous decorations in Palaeolithic art (Plate XXIV B, 9).

On two archaeological needlecases, one from Point Harrison, Labrador (Plate XXIV A, 6), and the other in the Van Valin collection from Point Barrow,⁸ there are encircling lines about the top and bottom of the tubes, with triangles, or zig-zag lines on them. The row of triangles on a line also occurs on a border about the hole in the handle of an archaeological comb from Point Hope.⁹

¹ Lartet and Dupart, fig. 35.

² Piette, pl. X, 4, and fig. 52.

³ Hoffman, pl. 34, 2.

⁴ Piette, fig. 52.

⁵ Except from Kachemak Bay, Cook Inlet, where they appear to be derived from an Indian source (Southern British Columbia).

⁶ In National Museum, Oslo, 15699, 15708, 15703.

⁷ H. Breuil, "Notes d'un voyage paléolithique en Europe Centrale," part II, *L'Anthropologie*, XXXIV, 1924, fig. 16, 3, 9, 10, and fig. 22.

⁸ Mason, 1930, fig. 1, b.

⁹ Mathiassen, 1930, pl. 16, 8.

Hatched Figures

These are not very common in Palaeolithic art, and are confined, as far as I know, to the Solutrean and first half of the Magdalenian. Some of the mammoth ribs from Předmošt are decorated with triangular areas filled with hatching in one direction only.¹ Both simple (Plate XXIV C, 3, 6, 9) and cross hatching (Plate XXIV C, 7 and 8) appear in the Magdalenian. However, only in one of the examples cited (Plate XXIV C, 6) does the shape of the hatched figure correspond to those found in Eskimo art.

Besides the double line with alternate hatched and plain areas, hatched figures are found in Eskimo art, though they are not common. Sometimes the space between the prongs of a Y is filled with hatching, as on the Thule harpoon heads,² or on the hook in the Van Valin collection from Point Barrow (Plate XXI A, 4). In the Old Bering Sea art, small triangles, attached to circles, and other small areas (Plate XIX A, 1) were filled with hatching, usually simple.³ Triangles on a needle-case in the Van Valin collection are filled with single hatching.⁴ As a modern example we might cite the bands encircling the snuff tubes and needlecases from Alaska (Plate XXIV C, 4).

A few more figures, common to both Eskimo and Palaeolithic art, might perhaps be found, but this survey has exhausted all the more important decorative elements.

CONCLUSION

In the field of representative art, whatever similarities we have been able to cite between that of the Eskimo and the Upper Palaeolithic were due only to a sketchy naturalism, or lack of style; and whenever conventionalization occurred, the styles of the conventionalization were different. The question remains how we are to interpret the similarities and differences in non-representative art.

If we set aside all the decorative elements, which we found to be post-Palaeolithic in origin, or which are precluded from the possibility of a relationship, by restriction to a limited locality or a particular period, or those whose occurrence in the art of either people is so rare as to be fortuitous, we have only a small list of decorative elements left. These are: the dot, spurred circle, the line with spurs on one side, the line with oblique, paired spurs on both sides (but not all of its abbreviations) and the "ladder" pattern.

It is questionable whether the possession of these few decorative elements is enough to prove a closer degree of relationship between Eskimo and Upper Palaeolithic art than might be shown to exist between the latter and the art of almost any people who incise comparatively simple figures. When I began this study I expected to find that the repertory of elements common to Upper Palaeolithic and Eskimo art would be much greater, and that it would be possible to show that these elements had a limited distribution, possibly within the circumpolar area, which would in itself strengthen the theory of a common origin. However, after attempting to trace the distribution of these elements, I was forced to abandon the over-

¹ Breuil, 1924, fig. 21.

² Mathiassen, 1927, I, pl. 1, 4.

³ Examples of single hatching (Collins, 1929, pl. 1, d, and pl. 6, a); of cross hatching (*op. cit.*, fig. 1).

⁴ Mason, 1930, fig. 1, a.

ambitious attempt, for they seem to occur sporadically in every part of the world. Thus, the conclusion has forced itself upon me that the mere possession in common of simple decorative motifs is not sufficient to prove a Palaeolithic origin for Eskimo art.

The survey which we have just made included practically every element in the art of the Thule culture and of the modern Eskimo. It seemed easier to take Eskimo art as a starting point, because its motifs are not only limited in number, but have precise and well-established forms. It will be remembered that the dot-and-circle, the double line with alternating internal spurs, and most of the forms of the Y and "tree" figures,—the three most important elements in Eskimo art,—were either entirely lacking in the Upper Palaeolithic, or, as in the case of the last motif were so rare that they must be disregarded.

However, our survey has far from exhausted the repertory of the Upper Palaeolithic. We have mentioned only a few of the many developments of the V and the zig-zag, of the short crossing lines, etc.—motifs composed of simple combinations of straight lines, which might easily have found a place in Eskimo art. Some of the Palaeolithic patterns are of such wide distribution that their absence from Eskimo art is all the more striking. For example, one of these patterns is a band of triangles fitted together, with hatching running in alternate directions (Plate XXIII A, 1). This is not only characteristic of the Palaeolithic, but appears in the Neolithic of various parts of Europe including Scandinavia, in the Bronze and Iron Ages, among modern northern tribes such as the Lapps, in southern Asia, in Pre-Columbian America, including the Northwest Coast of North America, and yet it has never, to my knowledge, appeared in Eskimo art.

Besides decorative motifs such as these, Palaeolithic art is very rich in curved lines and spirals, in combinations of incised figures and areas in low relief, in decorative elements suggestive of highly conventionalized zoöomorphic forms. All of these are very characteristic of the Palaeolithic, yet are utterly foreign to Eskimo art.

Although so far all the evidence seems to be against a Palaeolithic basis for Eskimo art, it may well be argued that we should not expect too great a similarity. We should expect Eskimo art to have lost some of the Palaeolithic elements and to have adopted others. However, the degree to which this must have taken place is very great and presents a difficulty which the theory of a relationship must explain. Eskimo art contains such a small part of the whole Palaeolithic repertory, and that part is of such limited importance, that the difference between the two arts is very significant.

It remains to be investigated whether both arts have the same underlying principles of style, that is, the same principles of combining decorative motifs and applying them to objects. We are struck, even from the first, however, by very great differences. Palaeolithic style is fluid: the creation and arrangement of motifs appears to be a matter of individual taste, and we often seem to catch a particular pattern in the process of formation. The cases in which the decoration appears to be imperfectly achieved and but poorly adapted to the shape of the object, are due, I feel, to the fact that the artist has not really thought out his design. He has not thoroughly mastered his technique; he is learning through experimentation. Tchek-

alenko, in his study of the art of the Aurignacian station of Mezine, Russia, has shown how this process has been active in the formation of meanders out of combinations of chevrons. I believe, however, that he has overemphasized the part played by blind trial and error and by mechanical techniques.

Eskimo art, however, is different. One feels that the patterns and the principles governing their arrangement, and even the choice of objects to which they are applied, were developed and fixed long ago. The clumsiness which we so often encounter is the result only of slovenly workmanship. In some cases the aesthetic appreciation of the design has atrophied to such an extent that it is apparently no longer necessary to execute the design neatly; it is enough if it is incised in the conventional manner. This, however, is an extreme case of the degeneration which has taken place in Eskimo art. The chief differences between Eskimo and Palaeolithic art are those between age and youth, and are perhaps what we should have expected, were Eskimo art derived from that of the Palaeolithic.

There are other differences in style, however. The greater part of the Eskimo decorative elements are border patterns, and are most often employed to outline the edge or a part of the object. Even the dot-and-circle and the dot, which from their nature might have achieved a greater degree of independence from this general principle, very often form borders, as we have shown. The Y and "tree" figures, also, are utilized as spurs on a line and so are made part of a border. The aesthetic principles underlying the emphasis of the edge of an object by means of a border are so simple and appear to be so universal that we are astonished at the rarity of the border in Palaeolithic art. Among the few examples we can cite, the pendant from Saint-Marcel (Plate XVIII B, 2) has a line around the edge. The holes in the "*bâtons de commandement*" of the final Magdalenian were enclosed in borders of straight lines,¹ or other simple elements (Plate XXIII B, 1). Partial borders are found on the decorated bone plates from the middle Magdalenian layers of Marsoulas (Plate XXIV C, 5 to 7). On two of these, there is a border separating the decorated portion from the undecorated area, while the spurs along the edge suggest that it, also, is to be seen as a border. Another of these plates (Plate XXIV C, 5), with the reëntering angle decoration, suggests the handle of some of the Thule combs (Plates XX B, 4 and 8, and XXIV A, 3). In fact, this similarity is so striking, that were the example from Marsoulas not unique in Palaeolithic art, its resemblance to the Eskimo combs might be argued as significant.

Closely related to the border around a flat object is the encircling line about a cylindrical one. As we have seen, the encircling line is very common in Eskimo art, particularly in the decoration of needlecases. In spite of the great number of cylindrical objects in the Palaeolithic, this type of composition appears but infrequently. We find it, however, in its simplest form on the bird bone needlecases of the upper Solutrean of Le Placard, in the form of short lines or notches (Plate XXIV C, 2).² The same type of decoration, in a slightly more complex form, ap-

¹ Breuil, 1913, fig. 39.

² The specimen figured is polished smooth on the side with the hole, probably where it rubbed against the clothing. It is lightly smeared with red ochre. Similar needlecases are: The National Museum, St. Germain, 54967, 54931, 48210, and 47420; Lartet and Christy, pl. B XVII, 1; and Breuil, 1925, fig. 4, 8. Some of these cases are closed at the lower end. Some Eskimo cases are plugged at the bottom.

pears on an Aurignacian paint-tube, which has a border consisting of a line of Xs, a line crossed by spurs, and a line of larger Xs (Plate XIX B, 10).

Bone needlecases, very similar to those of Le Placard, have been found among the Eskimo. From Point Atkinson, Mathiassen reports an archaeological "cylindrical bone tube, 7.6 cm. long, 1.0 cm. diameter, . . . decorated with five pairs of rings (encircling lines?) and three longitudinal rows of short transverse lines," which might have served as a needlecase.¹ From King William Land he figures a needlecase made of an animal leg bone with three encircling lines at the top and at the bottom.² Two modern needlecases from the same locality have a decoration of partially encircling lines (Plate XXIV C, 1).³ These last two specimens bear a further resemblance to those of the Palaeolithic because they have a suspension hole at the top. In the Thule culture, Mathiassen mentions tubes of swan's bone, which may well have been needlecases, and from the Punuk culture we have bird bone needlecases, on which, however, the decoration is slightly more complex (Plate XIX B, 2). I think it might well be argued that the original needlecase was a natural bone, with a hole at the top for suspension, and that a decoration of encircling lines became associated with it very early in its history. The Alaskan bird bone needlecases, and those of King William Land with suspension hole, would represent the modern survivals of the original form. How the elaborations of the bone case, such as the "winged" or the "flanged" types (or their prototypes), originated, we cannot discover without more archaeological information. The profile of the wooden needlecases of the modern Central Eskimo, as well as the fact that they are plugged at the bottom and suspended by a cord from the top, suggest that they were derived from the caribou leg bone case. Comparatively simple needlecase forms, but little elaborated, are the usual type in Siberia and Lapland.⁴ However, it might well be argued that the naturally hollow bone and the decoration of transverse notches and encircling lines are too simple to be of great significance. The very nature of the needlecase prescribes a tubular form, and the hollow bone is the natural, almost inevitable form, to which any people who used the needlecase would turn, whenever, and for whatever reason (degeneration of style, convenience, etc.), the elaborate forms were discarded. Like the naturally hollow stone lamps of the Caribou Eskimo, it may just as plausibly be called degenerate as primitive.⁵

Besides the hollow bone tube, the Palaeolithic offers a few other examples of encircling decorations. Pendants from Kesslerloch (Plate XIX B, 6) and Mas d'Azil

¹ Mathiassen, 1930, p. 16.

² Mathiassen, 1927, I, pl. 85, 18.

³ And a specimen of caribou leg bone (The National Museum, Oslo, 1568).

⁴ Thalbitzer reports the needlecase among the Lapps, Samoyed, Tungus, Gilyak, and Ainu, and argues that it is probably a "cultural relic of great antiquity" (W. Thalbitzer, "Parallels within the Culture of the Arctic Peoples," *Annaes do XX Congresso Internacional de Americanistas*, Rio de Janeiro, 1924, p. 284). O. Menghin, *Weltgeschichte der Steinzeit*, Vienna, 1931, pl. XXI, 17, figures a bird bone needlecase with bone needles in it from a Neolithic site on the banks of the Angara River, Irkutsk, Siberia. I see no reason, in view of this wide distribution, and of the discovery of the needlecase in Palaeolithic deposits, contemporaneous with the first sewing needles, for the assertion that the needle-cushion is older than the needlecase (K. Birket-Smith, "The Caribou Eskimos," *Report of the Fifth Thule Expedition 1921-24*, V, Copenhagen, 1929, II, pl. 199).

⁵ T. Mathiassen, "The Question of the Origin of Eskimo Culture," *American Anthropologist*, N.S. XXXII, 1930, pp. 596-598.

(Plate XIX B, 3) are encircled with lines with spurs; a "*bâton de commandement*" from Mas d'Azil, (Plate XXII B, 3), and an ivory cylinder from Brassempouy (Plate XXIII A, 8) by the "ladder" pattern. We have already commented on the Eskimo-like ornamentation on the pendant from Mas d'Azil; it might be compared to a Puduk culture needlecase from Cape Kialegak, St. Lawrence Island (Plate XXIV A, 2).

However, most cylindrical objects in the Palaeolithic are decorated as if they were long, flat surfaces, and they must be seen from a certain angle in order for the decoration to appear symmetrical. The most common form of decoration, as we have pointed out, is the simple longitudinal arrangement. The type of decoration of the Palaeolithic shafts and spear points indicates that these objects are supposed to be viewed from one end or the other. The development of end-to-end symmetry, and of the right-to-left symmetry in which one end is different from the other, indicate this very clearly. A class of Eskimo objects with a consistently longitudinal arrangement are the drill bows and handles, yet even here we find that the object is not to be viewed from the end. The bow and the handle are held in a horizontal position, with the eye above the middle, as is reflected by the realistic decorations. Both halves may be symmetrical with respect to each other, but this is not an end-to-end symmetry, like that of the Palaeolithic, but a right-to-left symmetry of a particular kind. There are, of course, exceptions to this generalization.

In Palaeolithic art it is permissible to take units which are not really the same, but which produce a similar effect. The line with spurs on both sides may be matched with the line crossed by spurs (Plate XIX B, 7), or a line of Vs matched by a zig-zag line (Plate XX A, 7). Even when the units of the pattern are really identical, an asymmetry may result because the spurs on the longitudinal lines are all on the same side, or those on the middle line are on one side only (Plate XX A, 7). The typical Eskimo arrangement produces a perfectly symmetrical pattern, of which the modern Alaskan thimble-holder is a good example (Plate XXI A, 7). Cases of poorly balanced patterns occur also in Eskimo art (Plate XXIII B, 6), but they seem to be due to degeneration of technique, and are not, like the Palaeolithic examples, the result of a somewhat sophisticated stylistic preference.

The art of the Thule culture or that of the modern Alaskan Eskimo does not show as highly developed a spatial sense as that of the Old Bering Sea culture, which was distinguished for its sophisticated use of balanced asymmetry (perfect symmetry is also common), and for the way in which the pattern fills the entire space, enhancing the aesthetic value of the shape of the object and of its parts, without recourse to the simple expedient of outlining. Modern Eskimo art, on the other hand, can fill space only by the clumsy method of setting one border within another. In Palaeolithic art, on the whole (with the exception of the semi-cylindrical objects described by Saint-Périer, ornamented with scrolls in low relief), the spatial sense is even less developed. Cylindrical objects, with few exceptions, are treated as if they were flat. Very rarely is their roundness emphasized, and on most objects the longitudinal direction alone is heightened by the decoration; the shape of the object as a whole is ignored.

These considerations seem to show that a fundamental difference separates the

art of the Eskimo from that of Upper Palaeolithic Europe. On the basis of the material at present available it is impossible to prove that Eskimo art is more closely related to that of the Palaeolithic than are other arts of comparatively simple content. Yet I am not sure that this negative conclusion is final. The differences in style upon which we have laid so much emphasis, may be only those which we should expect to find between an old and a young art; they are not differences in fundamental principles. Indeed, we may be demanding too great a uniformity and stability of tradition over such an enormous lapse of time. In view of the great changes in Alaskan art style from the Old Bering Sea period into modern times, is it surprising that Eskimo and Palaeolithic art have so little in common? If we knew the whole history of Eskimo art and of its pre-Eskimo origins, we might see how it grew from a Palaeolithic beginning and how the original Palaeolithic traits have been sloughed off, one by one. The archaeology of Siberia still holds the key to this mystery. A simple comparison of Eskimo and European Palaeolithic art, to which our present inadequate knowledge limits us, does not reveal, I think, similarity in style sufficiently striking to prove a Palaeolithic origin of Eskimo art. I doubt that even for the art of the "ice-hunting" cultures, we can prove a Palaeolithic origin more intimate and direct than for the art of any primitive group. Perhaps a study of all the possible similarities in cultural traits, as suggested in Part I, may reverse this opinion, or future archaeological discoveries in Siberia and Alaska bring new material and a clearer understanding.

FREDERICA DE LAGUNA

UNIVERSITY MUSEUM, PHILADELPHIA

LIST OF ILLUSTRATIONS *

PLATE XVIII

A. THE DOT

1. Solutrean rib, Grotte du Pape, Brassempouy, France. Scale $\frac{1}{2}$. After Piette, pl. LXXXI, 3.
2. Magdalenian ivory plate, Wierzchowie, Poland. Scale $\frac{1}{8}$. Sollas, 1924, fig. 301, 2.
3. Lower Magdalenian rib, Saint-Michel, Arudy, France. Scale $\frac{1}{4}$. After Piette, pl. LXXXVIII, 3.
4. Ivory pendant, Kulna, Moravia. Scale $\frac{2}{3}$. Sollas, 1924, fig. 305, B.
5. Archaeological ivory pendant, Inugsuk, Upernivik District, West Greenland. Scale $\frac{2}{3}$. After Mathiassen, M.o.G. 1930, pl. 18, 4.
6. Thule culture, drop pendant for hair ornament like Figure 9, Southampton Island, Canada. Scale $\frac{1}{2}$. After Mathiassen, 1927, I, pl. 76, 10.
7. Magdalenian pendant, coal, Kesslerloch, Switzerland. Scale $\frac{1}{4}$. After Merk, fig. 85.
8. Maglemosian amber pendant, Denmark. Scale $\frac{1}{2}$. After Müller, 1918, fig. 37.
9. Thule culture hair ornament for woman, ivory, Southampton Island, Canada. Scale $\frac{1}{2}$. After Mathiassen, 1927, I, pl. 76, 6.
10. Thule culture ivory thimble-holder, Comer's Midden, Thule, Northwest Greenland. Scale $\frac{2}{3}$. After Mathiassen, 1927, I, pl. 78, 12.
11. Archaeological ivory boot-sole creaser, West Greenland. Scale $\frac{1}{3}$. Nat. Mus., Copenhagen, L 8074.
12. Archaeological wrist guard, Alaska. Scale $\frac{1}{2}$. Nat. Mus., Copenhagen, P 365.
13. Archaeological ivory needlecase, Southampton Island, Canada. Scale $\frac{1}{2}$. After Mathiassen, 1927, I, pl. 76, 5.
14. Modern needlecase, Smith Sound, Northwest Greenland. Reduced. Am. Mus. of Natural History, N. Y.
15. Modern Aleut ivory pendant, Alaska. Scale $\frac{1}{4}$. Riks Mus., Stockholm, 06. 21. 21.
16. Archaeological miniature ivory needlecase, Ponds Inlet, northern Baffinland, Canada. Scale $\frac{1}{2}$. After Mathiassen, 1927, I, pl. 66, 1.
- 17, 18, 19. Modern Alaskan motifs.

* The figures have been slightly reduced from the scale indicated.

B. THE DOT-AND-CIRCLE AND SPURRED CIRCLE

1. Lower Magdalenian semi-cylindrical object, antler, cave of Les Espélugues, Arudy. Scale $\frac{1}{4}$. After Piette, pl. LXXXV, 7.
2. Magdalenian bone pendant, Saint-Marcel, Indre, France. Scale $\frac{1}{4}$. Breuil, 1902, fig. 4.
3. "Bâton de commandement," lower Magdalenian, Gourdan, France; and detail of reverse. Scale $\frac{1}{2}$. After MacCurdy, II, fig. 353.
4. Thule culture ivory button, Kuk, Southampton Island, Canada. Scale $\frac{2}{3}$. After Mathiassen, 1927, I, pl. 72, 17.
5. Magdalenian schematizations of eye and horn. Reduced. After Hoernes, 1925, p. 149.
6. Archaeological comb, East Cape, Siberia. Scale $\frac{1}{2}$. Nat. Mus., Copenhagen, P 25, 62.
7. Lower Magdalenian bone blade, Grotte des Fées, Marcamps, Gironde, France. Scale $\frac{1}{2}$. Breuil, 1913, fig. 25, 6.
8. Archaeological "winged" needlecase, with compass-drawn dot-and-circles, West Greenland. Scale $\frac{1}{4}$. Nat. Mus., Copenhagen.
9. Archaeological comb, Point Barrow, Alaska. Scale $\frac{1}{4}$. Nat. Mus., Copenhagen, P 15, 486.
10. Archaeological slate disk, Point Hope, Alaska. Scale $\frac{1}{4}$. Nat. Mus., Copenhagen, P 16, 1561.

PLATE XIX

A. THE DOT-AND-CIRCLE AND SPURRED CIRCLE

1. Old Bering Sea culture, whaling charm?, Point Hope, Alaska. Scale $\frac{1}{2}$. University Mus., Philadelphia.
2. Old Bering Sea culture, harpoon head, Alaska. Scale $\frac{1}{4}$. Nat. Mus., Oslo, 30122.
3. Detail from object similar to Figure 1, Old Bering Sea culture, East Cape, Siberia. Scale $\frac{1}{4}$. Nat. Mus., Copenhagen, P 350.
4. Detail, modern bucket handle, mechanically drawn dot-and-circles, Norton Sound, Alaska. After Hoffman, pl. 38, 1.
5. Detail, modern hat ornament, Premorska, Yukon River, Alaska. After Hoffman, pl. 54, 2.
6. Punuk culture drill rest, mechanically drawn dot-and-circles, Punuk Island, St. Lawrence Island, Alaska. Scale $\frac{1}{4}$. U. S. Nat. Mus., 343427.

B. THE LINE CROSSED BY SPURS AND THE LINE WITH SPURS ON ONE SIDE

1. Detail, Punuk culture ivory plate, Punuk Island, St. Lawrence Island, Alaska. Scale $\frac{1}{4}$. U. S. Nat. Mus., 343502.
2. Punuk culture, bird bone needlecase, Punuk Island, Alaska. Scale $\frac{5}{4}$. After Collins, 1929, pl. 17, c.
3. Middle Magdalenian ivory pendant, Mas d'Azil, France. Scale $\frac{1}{4}$. After Piette, fig. 72.
4. Modern bird bone needlecase or snuff tube, Alaska. After Hoffman, pl. 52, 5.
5. Thule culture ivory bead, Naujan, Melville Peninsula, Canada. Scale $\frac{1}{4}$. After Mathiassen, 1927, I, pl. 31, 8.
6. Magdalenian pendant, Kesslerloch, Switzerland. Reduced. After MacCurdy, I, fig. 128, 12.
7. Upper Magdalenian semi-cylindrical implement, antler, Mas d'Azil. Scale $\frac{1}{4}$. After Piette, pl. XCVII, 15.
8. Bone point, Grotte de Gouërris, Lespugue, France. Scale $\frac{1}{2}$. Saint-Férier, 1927, fig. 5.
9. Thule culture toy kayak, wood, Button Point, northern Baffinland, Canada. Scale $\frac{1}{2}$. After Mathiassen, 1927, I, pl. 62, 11.
10. Aurignacian paint tube, reindeer leg bone, cave of Les Cottés, Vienne, France. Scale $\frac{1}{2}$. MacCurdy, I, fig. 143.
11. Thule culture doll, wood, Button Point, northern Baffinland, Canada. Scale $\frac{1}{2}$. After Mathiassen, 1927, I, pl. 62, 7.

PLATE XX

THE LINE WITH SPURS ON ONE SIDE

A

1. Detail, Magdalenian antler implement, Espélugues, Lourdes. After Piette, pl. XXIII, 1.
2. Lower Magdalenian throwing stick, Saint-Michel, Arudy. Scale $\frac{1}{4}$. Cf. Pl. XXIV B, 1. After Piette, pl. LXXXIX, 6.
3. Magdalenian spear point?, Kesslerloch, Switzerland. Scale $\frac{1}{4}$. After Merk, fig. 92.
4. Magdalenian semi-cylindrical object, Espélugues, Lourdes. Scale $\frac{1}{4}$. After Piette, pl. XXXVII, 6.
5. Upper Magdalenian semi-cylindrical implement, Bruniquel, France. Scale $\frac{2}{3}$. After Cartailhac, 1903, fig. 90.
6. Middle Magdalenian semi-cylindrical implement, Espélugues, Lourdes. Scale $\frac{1}{4}$. After Piette, pl. XXI, 6.
7. Magdalenian bone plate, Laugerie-Basse, France. Scale $\frac{1}{4}$. Reinach, p. 117, fig. 2.
8. Magdalenian spear point, Kesslerloch, Switzerland. Scale $\frac{1}{2}$. After Merk, fig. 96.
9. Modern flanged needlecase, Norton Sound, Alaska. Scale $\frac{1}{4}$. Boas, 1908, pl. XXIV, 2.
10. Archaeological harpoon head, Point Barrow, Alaska. Scale $\frac{1}{2}$. Nat. Mus., Copenhagen, P 15, 169.
11. Archaeological harpoon head, Point Hope, Alaska. Scale $\frac{1}{2}$. Nat. Mus., Copenhagen, P 16, 810.

B

1. Lower Magdalenian dart head, Le Placard, France. Scale $\frac{1}{2}$. Breuil, 1913, fig. 18, 9.
2. Archaeological ulo (woman's knife) handle, ivory, Point Barrow, Alaska. Scale $\frac{1}{4}$. Nat. Mus., Copenhagen, P 15, 178.
3. Magdalenian blunt antler point, Espélugues, Lourdes. Scale $\frac{1}{4}$. After Piette, pl. XXXVII, 4.
4. Thule culture comb, Naujan, Melville Peninsula, Canada. Scale $\frac{1}{4}$. After Mathiassen, 1927, I, pl. 29, 2.
5. Neolithic bone plaque, Denmark. Scale $\frac{1}{2}$. Müller, 1895, fig. 248.
6. Archaeological comb, Barter Island, Alaska. Scale $\frac{1}{4}$. Nat. Mus., Copenhagen, P 13, 274.
7. Archaeological comb, Point Hope, Alaska. Scale $\frac{3}{4}$. After Mathiassen, 1930, pl. 16, 5.
8. Archaeological comb, Southampton Island, Canada. Scale $\frac{1}{2}$. Mathiassen, 1927, I, fig. 89.
9. Motifs from amber pendant, Megalithic Stone Age, Denmark. Scale $\frac{3}{4}$. After Müller, 1918, fig. 48.

PLATE XXI

THE LINE WITH PAIRED SPURS ON BOTH SIDES

A

1. Thule culture harpoon head, from a grave, Naujan, Melville Peninsula, Canada. Scale $\frac{1}{2}$. After Mathiassen, 1927, I, pl. 37, 9.
2. Final Magdalenian barbed antler point, La Madeleine, France. Scale $\frac{1}{2}$. After Lartet and Christy, pl. B XXXIX, 3.
3. Thule culture harpoon head, Southampton Island, Canada. Scale $\frac{1}{2}$. Nat. Mus., Copenhagen, P 11, 5.
4. Edge of archaeological ivory hook, Point Barrow, Alaska. Scale $\frac{1}{4}$. University Mus., Van Valin Coll.
5. Thule culture slate pendant, Naujan, Melville Peninsula, Canada. Scale $\frac{1}{4}$. After Mathiassen, 1927, I, pl. 31, 2.
6. Final Magdalenian bone implement, Lorthet, France. Scale $\frac{1}{2}$. Breuil, 1913, fig. 40, 10.
7. Modern thimble-holder, Alaska. Scale $\frac{3}{4}$. After Nelson, pl. XLIV, 16.

B

1. Upper Magdalenian bird bone needlecase?, Espélugues, Lourdes. Scale $\frac{1}{4}$. After Piette, pl. XXV, 4.
2. Magdalenian bone disk, Bruniquel, France. Reinach, p. 40, fig. 9.
3. Fragment of Magdalenian bone disk, Kesslerloch, Switzerland. Scale $\frac{1}{4}$. After Merk, fig. 77.
4. Archaeological sinew-twister, Point Hope, Alaska. Scale $\frac{1}{2}$. After Mathiassen, 1930, pl. 15, 4.
5. Modern buckle, Pitlikaj Chukchi, Siberia. Scale $\frac{1}{2}$. Riks Mus., Stockholm, Vega 4935.
6. Modern bag-handle, Alaska. Much reduced. After Hoffman, pl. 31, 1.
7. Final Magdalenian bone rod, Gourdan, France. Scale $\frac{1}{2}$. Breuil, 1913, fig. 40, 9.
8. Detail from lower Magdalenian ivory carving of goats in bas relief, Mas d'Azil, France. Scale $\frac{1}{4}$. After Piette, pl. XLIV.
9. Archaeological needlecase, East Cape, Siberia. Scale $\frac{1}{4}$. Nat. Mus., Copenhagen, P 25, 58.
10. Detail, modern bag-handle, Norton Sound, Alaska. Reduced. After Hoffman, pl. 39, 2.
11. Magdalenian bone blade, Laugerie-Basse, France. Scale $\frac{1}{4}$. Parkyn, fig. 90, 4.

PLATE XXII

"ARROW," "TREE," AND "Y" FIGURES

A

1. Detail, arrows in the side of a bison, Magdalenian painting, cave of Niaux, Ariège, France. Much reduced. After Sollas, fig. 195.
2. Details of decorations on upper Magdalenian bear teeth, cave of Duruthy, Sordes, France. Scale $\frac{1}{4}$. After Lartet and Duparc, figs. 34 (5, 10, 11) and 38.
3. Upper Magdalenian bear tooth, cave of Duruthy, Sordes, France. After Lartet and Duparc, fig. 36.
4. Aurignacian human tooth, La Combe, Dordogne, France. Scale $\frac{1}{4}$. After MacCurdy, I, fig. 72.
5. Modern Aleut pendant, Alaska. Scale $\frac{1}{2}$. Riks Mus., Stockholm, 02, 21, 21.
6. Upper Magdalenian semi-cylindrical antler implement, Bruniquel, France. Scale $\frac{3}{4}$. After Cartailhac, fig. 98.
7. Upper Magdalenian bone point, Bruniquel, France. Scale $\frac{3}{4}$. After Cartailhac, fig. 58.
8. Modern ivory hair ornament, Agiakchugumut, south of Nelson Island, Alaska. Scale $\frac{3}{4}$. Collins, 1929, pl. 18, b.
9. Detail, Thule culture arrow head, Naujan, Melville Peninsula, Canada. Scale $\frac{1}{4}$. Nat. Mus., Copenhagen, P 1, 1098.
10. Archaeological comb, antler, Point Atkinson, Canada. Scale $\frac{1}{2}$. Nat. Mus., Copenhagen, P 14, 261.
11. Detail, modern ivory snuff box, Hotham Inlet, Alaska. Reduced. After Hoffman, pl. 65, 3.
12. Detail, modern bone knife, Norton Sound, Alaska. Reduced. After Hoffman, pl. 15, 3.

B

1. Thule culture harpoon head, Naujan, Melville Peninsula, Canada. Scale $\frac{2}{3}$. After Mathiassen, 1927, I, pl. 1, 11.
2. Thule culture harpoon head, Naujan, Melville Peninsula, Canada. Scale $\frac{2}{3}$. After Mathiassen, 1927, I, pl. 1, 9.
3. Punuk culture harpoon head, Cape Kialegak, St. Lawrence Island, Alaska. Scale $\frac{1}{2}$. U. S. Nat. Mus.
4. Thule culture comb, Kuk, Southampton Island, Canada. Scale $\frac{1}{4}$. Nat. Mus., Copenhagen, P 4, 29.
5. Thule culture ornamental ivory plate, Belcher Island, east coast of Hudson Bay, Canada. Scale $\frac{1}{4}$. Nat. Mus., Copenhagen, P 22, 7.
6. Lower Magdalenian weapon point, Mas d'Azil, France. Scale $\frac{1}{2}$. Breuil, 1913, fig. 16, 6.
7. Modern needlecase, caribou leg bone, King William Land, Canada. Scale $\frac{1}{2}$. After Boas 1907, fig. 259, 2.
8. Detail, lower Magdalenian antler chisel, Le Placard, France. Scale $\frac{1}{4}$. Nat. Mus., St. Germain, 55065.
9. Detail, Magdalenian bear tooth, cave of Duruthy, Sordes, France. After Lartet and Duparc, fig. 34, 8.
10. Modern quiver handle, King William Land, Canada. Much reduced. Nat. Mus., Oslo, Amundsen Coll.

PLATE XXIII

THE "LADDER" PATTERN

A

1. Magdalenian double-ended chisel, Saint-Marcel, Indre, France. Scale $\frac{1}{3}$. Breuil, 1902, fig. 5.
2. Magdalenian antler shaft, Espéluques, Arudy, France. Scale $\frac{1}{4}$. After Piette, pl. LXXXV, 1.
3. Detail, Magdalenian antler implement, Espéluques, Lourdes, France. Scale $\frac{1}{2}$. After Piette, pl. XXII, 2.
4. Detail, modern bow drill, Point Barrow, Alaska. Reduced. After Hoffman, pl. 37, 5.
5. Magdalenian pendant, Jancovics, Hungary. Scale $\frac{2}{3}$. After Breuil, 1923, fig. 17, 16.
6. Lower Magdalenian ivory pendant?, Gourdan, France. Scale $\frac{1}{4}$. After Piette, pl. VII, 4.
7. Lower Magdalenian ivory plate, Lorthet, France. Scale $\frac{1}{4}$. After Piette, pl. VII, 3.
8. Upper Aurignacian cylindrical object, Grotte du Pape, Brassempouy, France. Scale $\frac{1}{4}$. After Piette, pl. LXXIV, 2.
9. Thule culture comb, Ponds Inlet, northern Baffinland, Canada. Scale $\frac{2}{3}$. After Mathiassen, 1927, I, pl. 52, 13.
10. Detail, end of modern needlecase or snuff tube, Alaska. Reduced. After Hoffman, pl. 52, 6.
11. Solutrean? cylindrical object, Gourdan, France. Scale $\frac{1}{4}$. After Piette, pl. LXXXIII, 3.
12. Archaeological comb, East Cape, Siberia. Scale $\frac{1}{2}$. Nat. Mus., Copenhagen, P 23, 61.

B

1. Magdalenian "*bâton de commandement*," Kesslerloch, Switzerland. Scale $\frac{1}{4}$. After Merk, fig. 41.
2. Upper Magdalenian "*bâton de commandement*," Espéluques, Lourdes, France. Scale $\frac{1}{2}$. After Piette, pl. XXII, 1.
3. Upper Magdalenian "*bâton de commandement*," Mas d'Azil, France. Scale $\frac{1}{2}$. After Piette, pl. LV, 7.
4. Modern bucket handle, Ishaktolik, Alaska. Much reduced. After Hoffman, pl. 36, 1.
5. Edge of Thule culture ivory plate, Kuk, Southampton Island, Canada. Scale $\frac{1}{4}$. Nat. Mus., Copenhagen, P 4, 850.
6. Archaeological thimble-holder, Point Hope, Alaska. Scale $\frac{1}{4}$. Nat. Mus., Copenhagen, P 16, 1496.
7. Punuk culture ivory plate, Punuk Island, St. Lawrence Island, Alaska. Scale $\frac{1}{2}$. U. S. Nat. Mus., 343613.

PLATE XXIV

A. LINES WITH ALTERNATING SPURS

1. Modern snuff tube, St. Michaels, Norton Sound, Alaska. Scale $\frac{1}{4}$. Trocadero Mus., Paris, 15045.
2. Punuk culture needlecase, Cape Kialegak, St. Lawrence Island, Alaska. Scale $\frac{1}{4}$. U. S. Nat. Mus., 346719.
3. Thule culture comb, Button Point, northern Baffinland, Canada. Scale $\frac{1}{4}$. Nat. Mus., Copenhagen, P 8, 169.
4. Modern antler bucket handle, Norton Sound, Alaska. Reduced. After Hoffman, pl. 14, 4.
5. Detail, modern bucket handle, Cape Darby, Alaska. Reduced. After Hoffman, pl. 36, 2.
6. Thule culture needlecase, Point Harrison, Labrador, Canada. Scale $\frac{1}{2}$. Nat. Mus., Copenhagen, P 21, 14.
7. Detail, border of Punuk culture wrist guard, St. Lawrence Island, Alaska. Scale $\frac{1}{4}$. U. S. Nat. Mus.
8. Modern ivory beads, Port Clarence, Alaska. Scale $\frac{1}{4}$. Riks Mus., Stockholm, Vega 5152.
9. Detail middle Aurignacian ivory "peg," Grotte du Pape, Brassempouy, France. Scale $\frac{1}{4}$. After Piette, pl. LXXV, 3.
10. Detail, modern bag handle, north of Norton Sound, Alaska. Reduced. After Hoffman, pl. 31, 4.

B. THE ZIG-ZAG AND CHEVRON

1. Upper Magdalenian throwing stick, Saint-Michel, Arudy, France. Scale $\frac{1}{4}$. Cf. also plate XX A, 2. After Piette, pl. LXXXIX, 6.
2. Upper Magdalenian barbed point, Lorthet, France. Scale $\frac{1}{4}$. After Piette, pl. LX, 11.

3. Lower Magdalenian bird bone needlecase, Le Placard. Scale $\frac{1}{4}$. Nat. Mus., St. Germain, 55151.
- 4 and 5. Details, Magdalenian throwing stick, Saint-Michel, Arudy, France. Scale $\frac{1}{4}$. After Piette, pl. LXXXIX, 2.
6. Detail, middle Magdalenian semi-cylindrical implement, Espélugues, Lourdes, France. Scale $\frac{1}{4}$. After Piette, pl. XV, 3.
7. Detail, border of Punuk culture wrist guard, St. Lawrence Island, Alaska. Scale $\frac{1}{4}$. U. S. Nat. Mus.
8. Detail, transverse design on modern caribou leg bone needlecase, King William Land, Canada. Scale $\frac{1}{2}$. After Boas, 1907, fig. 259, b.
9. Design on edge of final Magdalenian "*bâton de commandement*," La Madeleine, France. Scale $\frac{1}{2}$. After Breuil, 1913, fig. 39, 3.

C. NEEDLECASSES AND BONE PLATES

1. Modern bird bone needlecase, King William Land, Canada. Scale $\frac{1}{2}$. Nat. Mus., Oslo, 15702.
2. Solutrean bird bone needlecase, Le Placard, France. Scale $\frac{3}{4}$. Nat. Mus., Saint-Germain, 54967.
3. Middle Magdalenian fragment of antler, Le Placard, France. Breuil, 1913, fig. 18, 13.
4. Detail, modern needlecase or snuff tube, Alaska. After Hoffman, pl. 52, 3.
5. Middle Magdalenian bone plate, Marsoulas, France. Scale $\frac{2}{3}$. Breuil, 1913, fig. 27, 6.
6. Middle Magdalenian bone plate, Marsoulas, France. Scale $\frac{2}{3}$. Breuil, 1913, fig. 27, 2.
7. Middle Magdalenian bone plate, Marsoulas, France. Scale $\frac{2}{3}$. Breuil, 1913, fig. 27, 3.
8. Middle Magdalenian bone plate, Marsoulas, France. Scale $\frac{2}{3}$. Breuil, 1913, fig. 27, 4.
9. Middle Magdalenian bone plate, Marsoulas, France. Scale $\frac{2}{3}$. Breuil, 1913, fig. 27, 1.

GENERAL MEETING OF THE ARCHAEOLOGICAL INSTITUTE OF AMERICA

DECEMBER 28-30, 1932

THE Archaeological Institute of America held its thirty-fourth meeting for the reading and discussion of papers at Syracuse, New York, December 28, 29, and 30, 1932, in conjunction with the American Philological Association. The Institute was the guest of the University of Syracuse and of the Syracuse Society of the Institute. There were five separate sessions for the reading of papers, besides two joint sessions with the Philological Association. The authors have furnished the summaries of the papers given below.

WEDNESDAY, DECEMBER 28. 2.00 P.M.

1. THE TEMPLE OF JUPITER AT TUSCULUM: GEORGE MCCracken, Princeton University

This paper presents an account of the early work on the site, and a new ground plan of the remains, distinguishing between periods of construction, and supplemented by photographs of certain parts of the building. This is followed by the arguments for the identification of the building as the temple of Jupiter. An attempt is made to identify the cult statue with the so-called "Tiberius" of Agliè.

This paper will form part of the author's forthcoming book on Tusculum.

2. MODERN ENGINEERING METHODS IN EXCAVATION:

REGINALD G. FISHER, School of American Research

3. VERGILIAN TAPESTRIES: DOROTHY M. BELL, Teachers College, Columbia University

Artists of every field have found in the literature of the classical world a treasure-house of inspiration. No exception is to be found in the weavers of tapestry, who developed one of the chief arts and industries of the Middle Ages. Episodes from the poems of Ovid and Homer, the legends relating to Greek gods and goddesses, the *res gestae* of the great men of Rome were woven in tapestries many times.

Another major classical source lay in the poems of Vergil. More than ninety arras survive today in Europe and America to attest their influence. By far the greater number of them depict the Dido and Aeneas story. The most beautiful and artistic rendering of the romance is found in a series of eight hangings woven by the master-weaver, Wauters, from the cartoons of Jean Romanelli. These were made between 1635 and 1645 for Cardinal Barberini in an atelier set up in his palace in Rome. The original arras are now in this country in the Cleveland Museum of Art. So excellent were they that they were copied several times. The same episode and others from this story are told in other series or in single arras. Many of these belong in sets of which some hangings have perished.

A tapestry unique in subject portrays the First Eclogue. It was made in France in the sixteenth century and now hangs in the Museum in Sens.

This material will be included in the volume to be issued by the American Classical League and edited by Professor Victor Hill on *Illustrative Material Relating to Vergil and His Works*.

4. THE SCHEMA OF THE VILLA ITEM PAINTINGS: A. M. G. LITTLE, Yale University

The Dionysiac paintings of this Villa form the decoration of two connected rooms, interpreted by Maiuri as *oecus* and *thalamos*, which make up one of three distinct suites decorated in the Second style. It is suggested that their theme was drawn from the stock repertoire of the Second style decorators, as the decoration suitable for a nuptial suite.

For the interpretation of the frescoes the importance of their architectural background must be emphasized since, combined with the mosaics of the floor and the stucco of the roof into one decorative

conception, it throws light on their sequence and spatial disposition. In the *thalamos* the original disposition of the statues on the painted podium was five per alcove in a sequence working from left to right like the fresco of the oecus, and beginning with Alcove B (cf. Maiuri, *La Villa dei Misteri*, Fig. 18). In the oecus, a scheme designed originally for three walls, two longer and a shorter, was adapted to a room already containing a large window in one of the longer sides. This necessitated a disproportionate grouping in the central wall and a distribution of figures on either side of the main door. The complete long wall is the index to the principle of grouping. Here is observable a rhythmic scheme of balance and emphasis, alternating standing and sitting figures, single figures, symplegmata of two, and a central group of three. A crescendo of excitement is visible in the gentle upward incline of the height of the standing figures. The entering woman is balanced at the end of the wall by the girl with the flying veil, the woman and child by the two Satyriscas, the girl with the platter by the Silen; the two girls emphasize the central priestess. The figures cover an area of roughly five orthostates.

In the central wall covering four orthostates, the balance is not so obvious. The figures of Dionysos and Ariadne are not quite in the center; the group of two women and the phallus, which should balance the two boys and the Silen, is thrown out by the figure with the raised whip. This is due to the inclusion of this figure from the grouping of the third wall of the original schema.

The remaining figures of the fresco cover roughly five orthostates and correspond substantially to those on the first wall; the figure with the whip to the girl with the veil; the kneeling girl and the woman, to the two Satyriscas; the Maenad and the woman behind her to the Silen and the girl; the bride, attendant and Amor to the priestess and attendants; the last Amor and bride to the Initiate, woman and boy.

The Initiate is traceable in the groups as the one figure with her hair down. Entering clothed in a mantle, she reappears left of the priestess, with purple veil tucked in her dress; next horrorstruck in her purple veil and underdress; next in her purple veil alone as the prostrate sufferer; then twice again as the bride. Her position at the beginning, center and end of each wall is emphasized, entering sedately, performing her service, rearing in terror, then with sudden peripeteia prostrate before the upraised goddess of initiation, returning at last to expectation and final composure with the measured action of a Greek tragedy.

The originality of the work seems doubtful. The figures are in some cases based on Fourth Century or late Hellenistic Asia Minor types with strong Pergamene influence. The figure with upraised veil is reduplicated in a Niobid candelabrum from the Casa dei Dioscuri (cf. Hermann, *Denkmäler*, Fig. 51). The method of representation, i.e., figures on a podium, occurs in the Tomba delle Bighe at Tarquinia (cf. Poulsen, *Etruscan Tomb Paintings*, Fig. 15). The subject, the sacred wedding, was parodied by Messalina and Silius (Tacitus, *Annales*, XI, 31).

5. A STUDY OF THREE PREHISTORIC TROJAN SEALS FOUND BY SCHLIEMANN AT Ilios: CHAMPLIN BURRAGE, formerly librarian of Manchester College, Oxford

In spite of the generally held belief, that the Mycenaean Age was "dumb," i.e., was without writing, it has never been satisfactorily determined that such was actually the case. On the contrary, the three Trojan seals here examined seem to show that writing both in hieroglyphs and in what we may perhaps term Pelasgian letters was in use in the Troad in the Mycenaean period. It is suggested that Trojan seal 1 (Schuchhardt's *Schliemann's Excavations*, Fig. 83) reads twice in symmetrical Semitic form *Ilú* = in Greek translation *Ilos*, in Latin *Ilus*—the name to be identified with Ilos II, the founder of the Ilios known to Homer; that Trojan seal 2 (*Schliemann's Excavations*, Fig. 82) contains a brief inscription in Homeric Greek, *ῥόϊς δόλοιο Βολόιο* (*Koîs, the son of divine Boeus*)—an inscription, which, if correctly read, not only appears to indicate that plain Greek was in existence in the Mycenaean Age, but gives us a plain Greek text, though brief, probably four, if not five, centuries earlier than any at present believed to be known. Boeus, it is suggested, is to be identified either with Boeus, the son of Herakles and the founder of Boeae in the Peloponnese, or with a poet or seer of that name. Trojan seal 3 (Perrot and Chipiez, *History of Art in Primitive Greece. Mycenaean Art*, I, Fig. 55, right) is evidently written in hieroglyphs of a rather individual type. On one half of the cylinder is a crude likeness of a rosette; on the other are certain characters, probably consonants, closely written and evidently arranged in order according to their size and form. It would seem that we have here the Semitic

name of a Trojan prince, the consonants of which, it is my guess—and it is only a guess, though I hope a good one—may be *Sh, r, k, w, Sharákú*, with the help of prosthetic *aleph* to be vocalized as *Asharákú*, and after the Greek translation *Assaracus*—the Trojan king, the great grandfather of Aeneas, whose name might well adorn the side of this prehistoric seal from Ilios.

6. EXCAVATIONS AT ELEUSIS IN 1932: GEORGE E. MYLONAS, University of Illinois

The filling covering the Telesterion area has been removed and the foundations of all the classical remains have been cleared and prepared for study. Below the polygonal telesterion, considered by Noack and many others to be the oldest sanctuary, we have uncovered the remains of an elliptical or round building and its terrace wall which served as a Telesterion in the sub-Geometric period. The entrance to this sanctuary with its three steps still in situ was also found and uncovered. The Round building was partly based upon a L.H. III wall which was proved to be a peribolos wall enclosing a large area within which a megaron-shaped building was built. Professor Kourouniotes and I believe that this structure and the later additions, which have been cleared, belong to an earlier Telesterion, the earliest possibly built, that was constructed during the fifteenth century B.C., as can be proved by the sherds found. It remained in use until the end of the Mycenaean Age and was probably followed by the Round building. The terrace wall of the polygonal Telesterion was also cleared to its entire preserved length and by its entrance the section of a pyre was found rich in terracottas, in vases ranging from Corinthian to black-figured, in lamps and other small votive offerings. The top of the Eleusinian hill was also tested and the remains of the Mycenaean Age were located on its northeastern end and to the west of the small chapel of Panaghitsa. Most important among them are foundations belonging to a large building, possibly a palace. The complete excavation of this area, however, was postponed for another campaign. Soundings were also sunk on the large plateau to the west of the hill with very promising results, but we feel that the most important contribution of the excavation was the knowledge it gives us of the Telesterion area. It now becomes evident that a sanctuary existed in that area during the L.H. III period and that the temples and probably the worship go beyond the period in which the late Professor Noack wished to place them.

THURSDAY, DECEMBER 29. 9:30 A.M.

1. THE SUN TEMPLE AT CHETRO KETL: EDGAR L. HEWETT, School of American Research

2. CITY-PLANNING AT MINTURNAE: JOTHAM JOHNSON, University Museum, Philadelphia

In the first campaign of the collaborative excavation of Minturnae by the International Mediterranean Research Association and the University Museum, the ground-plan of the Roman colony of 295 B.C. received special study. It now seems safe to predict that the rectangular pattern ("pomerian plan") familiar at Ostia, with *cardo* and *decumanus* and pomerial streets, will be found at Minturnae, subject to an interesting modification caused by the proximity of the walls of the pre-Roman, Auruncian city.

One block of the colony was set aside as the Forum. This was surrounded on three sides by a large Stoa, and in the enclosed area stood the Capitolium, a triple-cella temple; both are decorated with Italic terracottas typical of the early third century B.C.

Studying the recognizable elements of the Auruncian city, dating, to judge from its polygonal wall, from the late sixth or early fifth centuries B.C., one is struck by the fact that every detail so far disclosed points toward the pomerian plan for this city also. But as the Auruncians could have neither (1) learned of the plan's merits, (2) financed the extensive wall, nor (3) cooperated politically, we are forced to assume that the plan and wall are not Auruncian but the work of an Etruscan colony of the late sixth century, and that this plan was used regularly for Etruscan colonizations (i.e., Capua, Marcina, etc.) of the period. Whatever its ancestral origin, therefore, the plan may be called, from its final crystallization, the Etruscan Plan.

3. THE UNIVERSITY OF CINCINNATI EXCAVATIONS IN THE TROAD:

CARL W. BLEGEN, University of Cincinnati

This paper has been published in the *A.J.A.* XXXVI, 1932, pp. 431-451.

4. ROMAN AND BYZANTINE POTTERY FROM THE ATHENIAN AGORA:

FREDERICK O. WAAGÉ, Princeton University

The first two seasons' excavation in the Agora at Athens produced a large number of Roman and Byzantine sherds which are the more important because the pottery of those periods has been much neglected until very recently. Apart from the well-known Arretine ware, of which representative fragments were found, all the Roman pottery is of east provincial origin and can readily be grouped into separate wares which were imported from several centers. The earliest seems to have been made at Pergamon and is found throughout the Aegean area from the late second century B.C. until the early first century A.D.; it is a lineal descendant of Hellenistic pottery although the latest shapes betray Arretine influence. At Tschandarli, near Pergamon, the ceramic tradition of the region was carried on in the later first and early second century A.D. The famous Samian ware, mentioned by various authors, can be identified definitely as a fine type of pottery exported from Samos to the whole littoral from Olbia to Italy in the first centuries B.C. and A.D. The second century A.D. saw no good pottery in use in Greece, but in the third two wares were being imported, apparently from Egypt. Both show forms and decoration derived from metal vases. One, "Late A" ware, lasts until the middle of the fourth century; the other, "Late B," until the end. In the "Late C" ware, fourth to sixth centuries, Christian crosses and cross monograms occur in addition to the stamped designs and animals of the other two late wares. The only local Athenian ware of the period is of very poor quality, made in the third and fourth centuries and decorated with spirals in matt white paint or with stamped designs copied from the imported wares. The seventh to tenth centuries seem devoid of any pottery, but in the eleventh appear the Byzantine glazed wares; they follow in general the classification made by D. Talbot Rice. The Early Sgraffito Ware begins the series and continues, gradually degenerating, until Palaeologue times. The Elaborate Incised Ware follows in the twelfth century, and most examples seem earlier than those at Constantinople. Late Sgraffito Ware adds color to sgraffito designs which, from the thirteenth century down into Turkish days, show progressive simplification. Painted decoration was effected by painting on the white slip in imitation of Elaborate Incised Ware or by the use of manganese and green colors to form designs akin to the latest of the Early Sgraffito; both of these wares seem to belong to the thirteenth-fifteenth centuries. Turkish fabrics are represented in the plainer as well as in the more famous Kutahia and so-called Rhodian wares. Chronological data for all this late pottery are scarce, but future excavation will continue to add to them.

This paper will be published in *Hesperia*.

5. THE ROMAN BASILICA: VALENTIN MÜLLER, Bryn Mawr College

This paper will be published in the *A.J.A.*

THURSDAY, DECEMBER 29. 2:00 P.M.

1. A DEMOSTHENES HEAD AND A VENUS GENETRIX IN WASHINGTON:

ALEXANDER D. FRASER, University of Virginia

The paper discusses the stylistic and technical aspects of a new marble head of Demosthenes and a marble statuette of the Venus Genetrix type recently acquired on loan by the United States National Museum of Washington, D. C.

The Demosthenes head is the first of the type to be acquired in America, though a bronze statuette is said to be in private possession in America; the Venus Genetrix is the fourth.

This paper will be published in the *A.J.A.*

2. A TYPICAL BLOCK OF HOUSES AT OLYNTHOS WITH AN ACCOUNT ALSO OF THREE HOARDS OF COINS: DAVID M. ROBINSON, The Johns Hopkins University

BLOCK A VI

Only one complete block of houses of some thirty to forty such blocks which are comprised within the limits of the Residential Section on the North Hill of Olynthos has yet been excavated, but excavations in other parts of the district indicate that the plan of the block is typical and also that the houses of

which it is composed are of as fine a quality and in as good a state of preservation as in any of the other blocks.

The division of the block into ten houses with common walls, five on each side, with a narrow alley for drainage between, is the same for all blocks. It will be seen, however, that the width of the houses is not always uniform, with the result that the lateral walls of opposite houses are not usually in line.

A study of such a complete block gives us an excellent idea of how uniform the general plan of the Olynthian house was. Thus we can trace an almost continuous line dividing the house almost in the center, the southern half of which is occupied by the court with rooms on either side. The northern half is again divided by a line running continuously through the block, the northern part containing the important living rooms of the house (although the andron may not be located here), the southern containing the portico, which may have rooms on either end, and by means of which the rooms both receive their light and air and are at the same time protected from the sun and wind. The entrance to the house depends on its position in the block. Wherever possible (that is, in the houses on the south) it leads directly into the court; in the houses on the northeast and northwest corners it leads into the portico; and only in the case of the three houses in the middle of the north side is it permitted to break into the arrangement of the continuous series of rooms on the north side of the house. As a result of this, for example, we see that in A vi, 5, outside of the room into which the entrance leads, there is only one room on this side.

There is only definite evidence (in the form of a stone block forming the first step of the stairway) for a second story, in four of the houses in the block, two on the north and two on the south sides (5, 7, 8, 10), but since most of these houses, especially those on the west, were covered by a very scanty fill (0.10 m. or less), such blocks have been doubtless removed. There is little doubt that all the houses (as is true of most of the Olynthian houses) had a second story on the north side of the house.

There is every reason to believe that the entire block of houses was constructed at one time. The narrow common wall which supported the roof beams and floor joists indicates simultaneous construction. It is indeed reasonable to suppose that, for simplicity of construction, the houses were all of the same height and that the tile roofs, with two slopes, one toward the street or alley, the other toward the court, and covering only the northern half of the house, extended continuously as one roof over the five houses on either side.

The alley was intended for drainage and not for passage; this is shown conclusively by the fact that it is encumbered by obstacles and that none of the houses have back entrances. Drains from the courts of houses on the north side all empty into it, as well as a special channel running through house 7 from St. vii on the north. Except on the top of the slope, where the water would run off rapidly, the alley was lined on either side with a low rubble wall to protect the adjoining houses from the dampness; in addition the rubble foundation walls of the houses on the south side were sometimes faced on the interior or exterior, with heavy plaster for the same purpose.

Although the houses would present on the exterior a rather uniform and unattractive aspect, of bare and brick walls broken by a few windows and by large double doors, and of a long expanse of red tile roofs, the interiors all differ considerably in points of detail. Thus there is variation in the number and quality of the rooms, in the extent and character of the mural decoration, and the use of mosaic, cement, or earth floors, etc. The evidence, therefore, strongly suggests that the construction was carried out by some sort of joint enterprise, but that the specifications for the individual houses were prescribed by their prospective inhabitants.

The construction of the houses on the south side of the alley in block A vii points to similar conclusions for that block, but whether several blocks were constructed simultaneously or not cannot yet be known. There is evidence, however, that some of the houses on the North Hill were built some time prior to the construction of block A vi, namely some of the houses on the west side of Ave. A, and particularly house B v, 1, in which a hoard of fifth century silver coins was found.

This block also gives us some information regarding the position, frequency, and general characteristics of the shops in the Residential District. Three of the four corners of the block are occupied by shops (N.E., S.E., and S.W.), but no others are found along the streets. They open on the street only by doorways of the usual width like the shops of Delos and Priene and unlike those at Pompeii,

which are wide open to the street. Windows may have supplemented the light afforded by the door, but there is no material evidence. The only difference between the shops and the other rooms in the house is that the former are entered only from the street and not from the interior of the house; no remains indicating their exact use were found.

The first shop, on the southwest corner of the block, is a single large room with an entrance from St. vi. A fine bronze stylus was found in this room. The shop on the southeast corner contains two rooms; the position of the entrance is not clear from the remains but must have been situated in the room to the south. In the southeast corner of this latter room is a cement and pebble pavement (2 m. by 3.15 m.), in the middle of which is an irregular gap from which some object has evidently been removed. The third shop, on the northeast corner, consists of one large room on the corner with two smaller rooms behind. The house seems to have undergone alteration and possibly in the original plan some or all of these rooms belonged to the house itself.

The coins will be published in April, 1933, by the Johns Hopkins Press in Vol. VI of *The Excavations at Olynthus*. The houses will eventually be published in a volume on *The Houses Found at Olynthus in 1931*.

3. A VASE PAINTED BY HERMONAX: FRANKLIN P. JOHNSON, University of Chicago

A fragmentary pelike at the University of Chicago came in 1902 as a gift from Mr. E. P. Warren to Professor Tarbell. On one side is Hermes clasping the hand of an old man, with another figure behind each; on the other side are four figures, all probably women, two standing, two seated; one is spinning. The ascription to Hermonax is obvious and certain; resemblances to the Villa Giulia signed pelike and the Orvieto signed stamnos are particularly strong and indicate that the three are nearly contemporary. The rendering of the eye and of the ankle bone distinguish a few late vases by Hermonax; for the order of the large early group the drapery is the best evidence. The development in this matter and the growing heaviness of the figures perhaps mark the waning of the influence of the Berlin Painter, an artist of very different tendencies. An effort was made to determine the order of the works of Hermonax which were accessible to the author.

4. SOME UNPUBLISHED VASES IN THE UNIVERSITY MUSEUM, PENNSYLVANIA:

EDITH H. DOHAN, University Museum, Philadelphia

This paper will be published in the *A.J.A.*

5. RECENT EXCAVATIONS AT SELEUCIA-ON-THE-TIGRIS:

LEROY WATERMAN, University of Michigan

The mounds of Seleucia covering over five square miles have, since excavation was begun in 1928, been rightly located on the newer maps two miles west of the present Tigris and twenty miles south of Baghdad.

The excavation of "Block B" in the heart of the city, following the lead of aeroplane photography, has resulted in uncovering the town house of a wealthy merchant prince. The house occupies an entire city block 450 feet long by 240 feet wide. A deep shaft sunk to virgin soil revealed four levels of occupation at this point. To date the three upper levels have been fully cleared. The fourth has been probed sufficiently to prove that it alone belongs to Greek Seleucia proper, and covers the period 319-142 B.C. Level III represents the Greek autonomous city under Parthian suzerainty and ends about 116 A.D. with Trajan's invasion. The two upper levels are strictly Parthian and extend to the downfall of the city about 215 A.D. Level III, completed last season, reveals a house of some 500 rooms laid out with manifest intent into a series of seven semi-isolated but for the most part intercommunicating suites, very probably to accommodate the children of the owner and their several families. The dominating feature of the architecture of this level is an open court faced on its southern side by a portico consisting of two burned brick columns standing between antae of the same material, leading to a prodomos behind which is a megaron or principal hall connecting in turn with other rooms and courts of the suite.

The Second Preliminary Report of the expedition, now in press, deals with architectural and other remains of the second and third levels. A volume on the pottery and another on epigraphical material are also ready for the printer.

6. ARDEA, RESULTS OF RECENT RESEARCH:

AXEL BOETHIUS, Director of the Royal Swedish Archaeological Institute at Rome

THURSDAY, DECEMBER 29, 1932. 9:00 P.M.

THE EXCAVATIONS IN THE ATHENIAN AGORA.

THEODORE LESLIE SHEAR, Princeton University

Cf. *A.J.A.* XXXVI, 1932, pp. 383-392.

FRIDAY, DECEMBER 30, 1932. 9:30 A.M.

1. TYPES OF TERRACOTTA FIGURINES FOUND AT SELEUCIA:

WILHELMINA VAN INGEN, University of Michigan

The types of the figurines from Seleucia-on-the-Tigris are, with a few exceptions, like those which have been found in Seleucid and Parthian levels on other Mesopotamian sites. The importance of the Seleucia figurines lies in the fact that they furnish additional material for the rather obscure Parthian period, and enable certain types to be dated somewhat more closely than has hitherto been possible.

The many Greek types which occur bear out the statements of classical writers as to the Greek nature of the city. Some of the commonest are: Herakles, nude athletes, Aphrodite in various poses, Athena, Eros, and children playing with birds and animals. While the majority of these classical types were found in the Seleucid level, examples occurred in all of the later levels.

In actual numbers, there is a preponderance of figurines of indigenous Babylonian types, as might be expected in a city which was founded on the site of Opis, and to which was transferred a large part of the population of Babylon. Especially popular was the nude female figure, about the exact significance of which authorities differ; she stands, holding her breasts or with her arms hanging at her sides. Other types include: a woman who holds or suckles a child; bearded men in conical caps and Persian dress, who hold various objects connected with worship; crude mannikins modelled by hand; jointed dolls; musicians playing on a variety of instruments.

Types which appear to be characteristic of the Parthian period are reclining figures, a woman who is wrapped in a mantle and wears a two-peaked headdress, riders on horseback and soldiers. Caution is to be urged against the assumption that these figures are actually Parthian, since they may be nothing more than a Babylonian development of the period of Parthian dominion. Iranian elements, while they may have been brought in by the Parthians, may equally well have been introduced during the Achaemenid period, or directly through trade.

2. THE PALM TREE OF THE POLIAS: LEICESTER B. HOLLAND, Library of Congress

The paper is an attempt to reconstruct, from indications furnished by a marble base in the Acropolis Museum, a marble lamp in the Metropolitan Museum, and a decorated Roman Pilaster, the form of the golden lamp of Kallimachos which stood before the image of Athena Polias in Athens, and the bronze palm tree that surmounted it. The significance of the palm tree in relation to the Polias is considered, and also its possible influence on traditional architectural forms.

This paper will be published in the *A.J.A.*

3. HELLENISTIC INFLUENCES IN SYRIAN GLAZED POTTERY:

A. M. G. LITTLE, Yale University

The pottery of Doura Europos is an important link in the ceramic connections of Syria and the Euphrates valley, between the excavations of Antioch, and Seleucia. In this pottery green and blue faience ware illustrates the local imitation of the Hellenistic forms of Rakka ware. The shapes which this ware takes received the impression of metal technique; the decorative motives are drawn from

Hellenistic metal relief work. In the Doura ware can be seen the gradual loss of the fine sense of proportion which characterizes Hellenistic metal ware, the loss of meaning in the decoration of heads and medallions, and at the same time the introduction of new influences Semitic, Roman, as well as Iranian, either Parthian or Sassanian.

4. THE FIRST SEASON OF EXCAVATION AT ANTIOCH ON THE ORONTES:

W. A. CAMPBELL, Wellesley College

The excavation of Antioch on the Orontes has been made possible by the formation and financing of the Committee for the Excavation of Antioch and Vicinity. The institutions contributing to the support of this Committee are the *Musées Nationaux de France*, Princeton University, the Baltimore Museum of Art, and the Worcester Art Museum. The objective of the project is to obtain a topographical and historical record of the site, and work toward this end was started in March, 1932. The field staff included the following members: Professor G. W. Elderkin, General Director; Dr. C. S. Fisher, Field Director; Professor W. A. Campbell, Assistant Field Director; Mr. C. K. Agle, Architect; Mr. R. E. G. Downey, Cataloguer; Mr. Robert Schirmer, Photographer; and M. Jean Lassus, Assistant.

The results of the first campaign were very promising even though the work was mainly exploratory. Three Roman baths, a Roman house, the great hippodrome, and an early church were uncovered. One of the Roman baths excavated was a large, luxurious institution with the calidarium and frigidarium built on the octagon inscribed in a square plan. Enough of the hippodrome was excavated to make a reconstruction of the plan and superstructure. In the excavation of the buildings a number of objects of artistic importance were found. One of the major finds of the season was the mosaic floor of the triclinium of a Roman house of the early second century A.D. In this mosaic floor are a series of panel pictures which make an outstanding addition to the mosaic examples of Hellenistic painting.

A full account will appear in the annual report of the excavations to be published by Princeton University.

5. THE PROTOSINAITIC INSCRIPTIONS OF SERABIT AND THE ORIGIN OF THE ALPHABET (read by title): R. BUTIN, Catholic University of America

The protosinaitic inscriptions of Serabit-el-Hadim are alphabetic; the names of the objects used in the application of the acrophonic principle seem to be identical with those of the Phoenician alphabet. But while the protosinaitic signs are really pictorial, the Phoenician signs are already strongly conventionalized, to such an extent that the objects often are unrecognizable and suppose older forms.

On the other hand, the Serabit inscriptions are older, and there is a strong temptation to say that the Phoenician alphabet as it appears in the oldest monuments is an evolution from the Serabit Script. Yet this by no means follows; still less should we conclude that the alphabet has been invented on the Sinai Peninsula; it may have been, but it is not proved.

As is still evident from the protosinaitic, the original system was not standardized, and as long as the object could be recognized it had fulfilled its function. It mattered little whether the human head (Resh) was written in profile or full face, it was a human head and its value was R.

A House (Beth) may have been represented by one room or two rooms, with or without a door, with or without an entrance leading into it, it was a beth and its value B.

One of these originally arbitrary forms may have been adopted in certain localities, while others preferred another, and this form was gradually conventionalized in a different way in different places.

We have not the original form of the Phoenician alphabet, and eventually we may be able to show that the alphabet originated with the Phoenician, perhaps at Byblos, and spread from that center, but in this case the latest date possible would be 2000 B.C. to allow for the different types as found at Serabit-el-Hadim.

6. DURATION OF LIFE AMONG THE GREEKS FROM INSCRIPTIONAL EVIDENCE (read by title): BESSIE E. RICHARDSON, Johns Hopkins University

Among the Greeks we find no instances of prolonged life as among the patriarchs of the Bible, but when we consider the number of writers who lived to be octogenarians or nonagenarians—Anacreon,

Philemon, Sophocles, Solon, and Simonides, to recall only a few representatives from the literary world—the exhibit of longevity in the ranks of authorship becomes rather striking, and many of them continued their labors almost till the end of life.

The number of examples of longevity in inscriptions is also large, but is offset by the high mortality among infants and young adults. Those dying between the ages of sixteen and twenty appear to form the largest group, and those completing twenty-one to twenty-five years furnish the next largest number of examples. From a study of over two thousand sepulchral inscriptions recording ages, it appears that the average expectancy of life among the ancient Greeks must have been only about twenty-nine years as compared without about fifty-five years in our own country today for males and about fifty-seven years for females. The oldest persons recorded in Greek inscriptions which have come to the writer's attention lived to the age of one hundred and ten years, one of the inscriptions being found at Rome and the other at Telmessus in Lycia. The Cyrenaica, Sidon, and Rome all furnish examples of persons reaching the age of one hundred years. It is possible that cremation may have been some times used for children, and that many of the poor may have been buried without inscriptions. The inscriptions cover a wide period of time, and for this reason cannot be taken as a criterion for any one century or smaller period, but the majority are Greek inscriptions from the Roman period.

Part of a book entitled *The Greek Portrayal of Old Age in Literature, Art and Inscriptions*, to be published in April by the Johns Hopkins Press.

7. NOTES ON THE COINAGE OF EUCRATIDES (read by title):

CHARLES ALEXANDER ROBINSON, JR., Brown University

The coinage of Bactria is remarkable for its beauty and illustrates the vitality of Hellenism in a far corner of the Greek world. Bactria, originally conquered by Alexander and later a province of the Seleucid Empire, won its independence about 250 B.C. The extent of this Greek Kingdom varied at different periods, stretching into India at one time, and eventually being confined to the regions south of the Hindu Kush. The ancient authorities fail us for its history as for no other section of the Greek world, and consequently the coinage becomes of utmost importance. This paper discusses some of the problems connected with the coinage of Eucratides, who ruled in the middle of the second century B.C.

8. THE RHODIAN STELE OF KRITO AND TIMARISTA (read by title):

MARGARET RICKERT, University of Chicago

The stele of Krito and Timarista is one of the most beautiful sculptures found in recent years. The Krito is closely related to certain figures in the Parthenon frieze, the Timarista to various Attic figures slightly later than the Parthenon; the stele belongs to the twenties of the fifth century. The drapery is more stylized than in any of the Attic parallels. A stele in the Metropolitan Museum is similar in the unusual form and somewhat in the style, but the Rhodian work is decidedly superior. Of sculptures in the round, the Lepcis Athena is perhaps the nearest relative.

This paper will be published in the *A.J.A.*

ARCHAEOLOGICAL NEWS AND DISCUSSIONS¹

NOTES ON RECENT ARCHAEOLOGICAL EXCAVATIONS SUMMARIES OF ORIGINAL ARTICLES CHIEFLY IN CURRENT PUBLICATIONS

DAVID M. ROBINSON, *Editor*
Johns Hopkins University, Baltimore

NECROLOGY

Paul Alphandéry, since 1914 director at the *École des Hautes Études* and co-director since 1908 of the *Revue de l'Histoire des Religions*, died in May, 1932. He took an active part in the organization of the international congress of the history of religions and was the founder of the *Société Ernest Renan* and of the *Société française de folklore*. He was a specialist in the history of the heresies of the Middle Ages and of the great religious and intellectual movements of which they were the expression.

Baldwin Brown, professor of the history of art at the University of Edinburgh, died in July, 1932, at the age of 82. He was the author of works on Rembrandt, on Hogarth, and on prehistoric art. His most important book, in six volumes (1903-1930), is entitled *The Arts in Early England*.

¹ The department of Archaeological News and Discussions and of Bibliography of Archaeological Books is conducted by Professor DAVID M. ROBINSON, Editor-in-charge, assisted by Professor SAMUEL E. BASSETT, Professor CARROLL N. BROWN, Miss MARY H. BUCKINGHAM, Professor SIDNEY N. DEANE, Professor ROBERT E. DENGELER, Professor VLADIMIR J. FEWKES, Professor JOHN W. FLIGHT, Professor HAROLD N. FOWLER, Professor HENRY S. GEHMAN, Mr. E. BIÖREN GETZE, Dr. MARIAN GUPTILL, Professor FRANKLIN P. JOHNSON, Professor ROLAND G. KENT, Dr. STEPHEN B. LUCE, Professor CLARENCE MANNING, Dr. GEORGE E. MYLONAS, Professor JOHN C. ROLFE, Professor KENNETH SCOTT, Professor JOHN SHAPLEY, Professor EPHRAIM E. SPEISER, Professor FRANCIS J. TSCHAN, Professor AXEL J. UPPVALL, Professor SHIRLEY H. WEBER, Professor FRED V. WINNETT, and the Editors.

No attempt is made to include in this number of the JOURNAL material published after December 30, 1932.

For an explanation of the abbreviations see Vol. xxxiv, 1, p. 124 and Vol. xxix, 1, pp. 115-116.

Paul Couissin, professor at the *Faculté des lettres* d'Aix-Marseille and keeper of the Chateau Borely, died in March, 1932. He was extremely versatile, showing ability as a musician, draughtsman, and poet. His numerous studies on ancient arms and armor made him an authority in that branch of archaeology. He collaborated in the preparation of the archaeological map of Roman Gaul.

Fernand Courby, member of the *Faculté des lettres* at Lyons and a specialist on Greek architecture, died at Lyons in March, 1932. He was a member of the French School in Athens, and his publications especially on Delphi and Delos are of the greatest importance.

Joseph Destrée, the honorary keeper of the *Musée du Cinquantenaire* at Brussels, died in March, 1932. He published a valuable monograph on Hugo van der Goes, and was noted as a connoisseur of tapestries, Flemish miniatures, and sculpture of Brabant.

Henri Gaidoz, distinguished in the field of Celtic studies and folklore, died in June, 1932, at the age of 90. He founded and for some time directed the *Revue celtique* and *Mélusine*. He contributed to the *Revue Archéologique* and the *Encyclopédie des sciences religieuses*, and was for a long time director at the *École des Hautes Études* where he taught Celtic language and literature.

John Francis Greene, Associate Professor Emeritus of Roman Literature and History at Brown University, died on February 7, 1933, at the age of sixty-five.

G. H. Hallam of Harrow died at Tivoli in July, 1932, at the age of 86. He was interested in Roman archaeology and is the author of articles in the *Journal of Roman Studies* on a tomb of a Vestal discovered at Tivoli and on the cult of Hercules Victor.

Gustav Kossina, professor of prehistoric archaeology at the University of Berlin, died in

December, 1931. He had been librarian at Halle, Bonn, and Berlin and editor of the Baedeker guide-books for Germany. He published many works on pre-Roman antiquities, and founded and edited *Mannus* and the *Mannus-Bibliothek*. The *Gesellschaft für deutsche Vorgeschichte* and the *Nachrichtenblatt* (on the excavations) both owe their existence to Kossina.

Jules Martha, honorary professor at the Sorbonne, died in April, 1932, at the age of 79. He was a member of the French School at Athens and later taught Latin literature at Montpellier, Dijon, Lyons, the *École normale* and the Sorbonne. He published in 1880 a catalogue of the terracottas of the Archaeological Society of Athens. His doctoral dissertation on *Les Sacerdotes athéniens* appeared in 1882. He collaborated with Rayet on *Monuments de l'art antique*. In 1884 he published a compendium of Etruscan and Roman Archaeology, followed in 1889 by his important volume, *L'Art étrusque*. Besides a study on the Etruscan language he edited texts and translations for the Hachette and Budé collections.

Henry Oppenheimer died in March, 1932, at London. He had formed one of the finest private collections of drawings and *objets d'art* of the Renaissance.

Edward Prior, Professor of the History of Art at the University of Cambridge and founder of a school for the study of architecture at that university, died in August, 1932. He was the author of a history of Gothic architecture in England (1900) and, in collaboration with Arthur Gardner, of a work on Mediaeval Sculpture in England (1912).

Maurice Roy, the economist and referendary counsellor at the *Cour des Comptes*, died in June, 1930. He had acquired an honorable position among historians of art by his discoveries on French art of the sixteenth century.

Archibald Henry Sayce, eminent Biblical scholar, distinguished Assyriologist and Egyptologist, was born September 25, 1845, and died on February 4, 1933, at the age of eighty-seven. He was Deputy Professor of Comparative Philology at Oxford from 1876 to 1890. He was Hibbert lecturer in 1887, Gifford lecturer in 1900-1902, and Rhind lecturer in 1906. He was Professor of Assyriology at Oxford from 1891 to 1919. Professor Sayce had many honorary degrees and was the author of many standard books on Oriental languages, religions, and his-

tory. Many anecdotes are told of him, such as his escape after being ordered shot as a spy in the Franco-Prussian War, and his burning out from his ankle with a hot iron the poison caused by the bite of an asp. Some of his many archaeological publications were *The Monuments of the Hittites*, 1881; *Fresh Light from the Monuments*, 1883; *The Ancient Empires of the East*, 1884; *The Races of the Old Testament*, 1891; *Patriarchal Palestine*, 1895; *The Egypt of the Hebrews and Herodotus*, 1895; *Babylonians and Assyrians*, 1900; *Egyptian and Babylonian Religion*, 1903; *Assuan Papyri*, 1906; *The Archaeology of Cuneiform Inscriptions*, 1907; *Reminiscences*, 1923.

PREHISTORIC

Rock-Drawings and Paintings in the Fezzan Desert.—In the land of the ancient Garamantes the German African Expedition under Professor Leo Frobenius has discovered some 2500 paintings and engravings of great interest, dating, he believes, from the twelfth to the third millennium B.C. They are found on the steep rock-walls bounding ancient lakes. They vary in size, the larger being generally naïve and realistic, the smaller superior in artistic value. The elephant, giraffe, zebra, lion, buffalo, rhinoceros, crocodile and other animals are represented, as well as human beings and animal-headed creatures with human bodies. Especially interesting is the representation of cattle with horns curving forward, a phenomenon attributed by Herodotus to the cattle of the Garamantes, which, he says, forced them to graze backwards. The subjects and styles are paralleled at other sites where primitive wall-decoration exists, such as Spain, France, and North Africa. (LEO FROBENIUS in the *Illustrated London News*, Nov. 19, 1932, pp. 798-801; *ibid.* Nov. 26, 1932, pp. 860-1.)

EGYPT

The Four Shrines of Tutankhamen.—These shrines which once, fitted one within another, enclosed the sarcophagus in which lay the mummy of Tutankhamen, have now been placed on display side by side in the Cairo Museum. They are made of oak and cedar, perfectly preserved, covered with gesso and overlaid with sheet gold, beautifully decorated. The outermost shrine bore magic symbols in blue faience; it was fastened with ebony bolts. The second shrine was incised with designs from the book "Of that which is in the Underworld" and closed by a seal bearing

the name of Tutankhamen and a jackal recumbent over the nine foes of Egypt. In front of this shrine hung a linen pall torn by the weight of the gilt bronze marguerites on it. The third and fourth shrines bore decorations like those of the second, and inside the fourth was a yellow quartzite sarcophagus containing the mummy of the king. (*Illustrated London News*, Jan. 7, 1933, pp. 3-5, 7.)

Excavations at Meydûm.—In *Mus. J.* (Univ. of Penna.), Vol. XXII, No. 1, March, 1931, pp. 2-84 (39 plates), ALAN ROWE presents a thorough report of the Eckley B. Coxe, Jr. Expedition Excavations at Meydûm, 1929-1930. The excavations described in this paper are those of the Pyramid, the passages and chambers of which were thoroughly cleared out and the N. E. and W. sides partly cleared; of the Pyramid temple, silo, and causeway. The work on Mastabah No. 17, which formed part of the season's dig, is to be reported in a later issue, after further research. A chronological list is given of the workers at Meydûm, from the Arab observer of the twelfth century to the aircraft survey made in 1928, which latter included a photograph taken from an altitude of 11,000 feet!

Rowe suggests that Seneferu may have been buried originally at Meydûm (before the Dahshûr pyramid was completed), and later moved to Dahshûr; that the cult was kept up in both places, for the reason, possibly, that the royal *Ka* was imagined as returning occasionally to Meydûm, its original resting place.

After listing the officials in the several dynasties who worked on the pyramid, the author studies the gangs of craftsmen and the evidence from quarry-marks, etc. In the pyramid only the good limestone from the eastern hills is marked; the inferior local stones have at best a few meaningless lines upon them. A number of intrusive burials were found, dating after the XXth dynasty, in the debris against the pyramid's side. Before this period of complete neglect, the pyramid had long been used as a quarry; and this continued for centuries, for, even between the recorded Arab visit of 1117-19 and the visit of Captain Norden in 1737, the number of stages of the pyramid had been reduced from five to three. In modern times Maspero was the first to open the pyramid (1881-82), and it was subsequently examined by Petrie (1891). The pyramid temple had been used at some time, probably about the VIth dynasty as a habitation doubtless of shep-

herds, but this was not later than the XVIIIth dynasty, since an intrusive grave of that period is found there. An interesting silo is still attached to the building, the work of these shepherds. The temple itself, built up against but not bonded into the pyramid, is the oldest complete stone building of its kind in existence. It has a passage, central chambers, and an offering court. An excellent plan (in the plates) together with a detailed description gives an idea of the appearance of the Temple. There was originally a long causeway leading to the brick enclosure which, at a distance of 25 metres, surrounded the pyramid in the IVth dynasty; the causeway is more than 240 metres long from its beginning to the entrance of the temple at the pyramid's base. A brick furnace, for smelting metals, dating later than the causeway, was found near its lower end. The plates which accompany the article—several of them large folding maps, plans, and elevations—are excellent, thorough, and valuable. A bibliography of 81 works completes the paper.

THE ORIENT

ASSYRIA AND BABYLONIA

Excavations at Ur.—In *Mus. J.* (Univ. of Penna.), Vol. XXII, Nos. 3-4 (Sept.-Dec. 1931), pp. 247-290, C. LEONARD WOOLEY gives in detail, with plates (XXVIII to XLI) consisting of plans, and photographs of sites and finds, a report of the Excavations at Ur, 1930-1931, mentioned earlier in this *Journal*.

Excavations at Fara.—In *Mus. J.* (Univ. of Penna.), Vol. XXII, Nos. 3-4, Sept.-Dec. 1931, pp. 192-245 (Map and XXVII page plates each with several photographic figures), DR. ERICH SCHMIDT gives a preliminary report of Excavations at Fara, 1931.

The mound of Fara lies in Iraq about midway between Baghdad and Ur. Koldewey's Babylon expedition in 1902-1903 had turned over a good deal of the mound, but had not the means to remove the dirt; thus the original contour of the mound has been changed. The apices of the tell had been disturbed thoroughly, and test sites had to be chosen at medium heights (3 to 8 m. above the plain). The region was divided, in survey, into plots: the site of the main Tell at Fara covers an area of about 10 by 10 metres; the total territory spreads over about 14,000 of them. Seven

test squares form the basis for the report, in only one of which, inside a circular brick shaft, was there time to penetrate to the mound base. In spite of the need for haste and in spite of the peculiarly trying desert weather, the most careful procedure was followed; a short account given by Dr. Schmidt is almost a classic account of proper archaeological procedure.

Three principal strata were noted, of which II is the richest and has been most thoroughly studied. The finds were as follows: in Stratum I, painted jars; plain bowls, pitchers and cups in Stratum II; elaborations of these types in Stratum III. Of considerable interest also are scaraboid seals and archaic seal cylinders and cuneiform tablets of some historical importance. Stratum I so far has given no written records. When opened more thoroughly it may perhaps show relations between the earliest Sumerians and the Jemdet Nasr people (Elamites?), in some primitive pictograph. The evidence of the cuneiform material as to the ancient name of the Tell, is for Shuruppak (Sukkurru) mentioned in the mythology as a "pre-diluvial city" of Mesopotamia and the home of Ut-Napishtim, the Sumerian Noah. Fara now joins Ur and Kish with evidence of a great inundation on top of human deposit. Perhaps the Noah story symbolizes the survival of the Sumerian and end of the Elamite Jemdet Nasr culture. There is a coincidence, at least, in this at Fara. The understanding of the text is much enhanced by the fine plates.

Ancient Wheat and Barley from Kish, Mesopotamia.—In *Am. Anth.*, Vol. 34, No. 2, April-June, 1932, pp. 303-309, HENRY FIELD tells about the expert analyses which were made by several specialists on specimens of grain from the excavations at Kish. Two varieties, namely wheat and barley, were definitely distinguished. The wheat appears to be of the "*triticum turgidum*" (Rivet or Cone) or "*triticum compactum*" (Club) types. The samples of barley were too charred and blackened to allow a positive identification. However, it was possible to recognize in them "some form or type of barley." In addition to these two, certain seeds were found, but these were impossible to identify, except that one group was "very similar to those of certain species of '*Panicum*.'"

The deposits with which all these specimens were associated are dated at the beginning of the fourth millennium B.C.

ARABIA

Sanctuary of Allât at Iram.—In *R. Bibl.* (Oct. 1932), pp. 581-597 (4 plates, 5 figures), LE R. P. SAVIGNAC gives a preliminary report of his examination of the ruins in the region of 'Aqaba discovered by the directors of the Department of Antiquities of Transjordan. At *Djebel er-Ram* or *Ramm* or *Iram*, east of 'Aqaba, traces of a former settlement were found—remains of an irrigation system, two little structures which seem to have been temples, and beside the main spring of the mountain the remains of a sanctuary which, according to the Nabatean inscriptions and graffiti accompanying it, was dedicated to the goddess *Allât*. One of the inscriptions bears the name of the Nabatean king, Rabel II (70-106 A.D.). A hill in front of the temples bore some Thamudic graffiti and one Minaean, incidentally the most northerly Minaean inscription yet discovered. At *el-Ghazaleh*, about 7 kilometres south of this spot, other ancient Arab inscriptions and graffiti were found. These will all be dealt with in a future number of the *Revue*. The peculiarities of a composite Nabatean graffiti found nearby are described in detail. The ruins of *qasrs* at *el-Kithara* and *Ain-el-Khaldi*, north of 'Aqaba, are also described. These forts seem to have been built by the Nabateans to guard the road from 'Aqaba to Ma'an and were later occupied by the Romans, as the pottery fragments testify.

Inscriptions in Arabia.—In the *Archiv für Orientforschung*, viii. 3 (1932), pp. 105-113, H. GRIMME compares the Rees collection of 182 brief inscriptions from the *Harat er-Radjil* (published by René Dussaud in *Syria*, X, 1929, pp. 144-163) with the Safaitic inscriptions in respect of script, personal, divine, and tribal names, and offers a number of suggestions as to their reading and interpretation. He disagrees with Dussaud's interpretation that they are merely memorial inscriptions, the work of members of the Safaite military posts which guarded a road from 'Amman to the Euphrates. The presence of the *lam* before each personal name at the beginning of each inscription leads him to see in them religious monuments of profound significance (cf. his treatment of the Safaitic inscriptions in his book *Texte und Untersuchungen zur safaitisch-arabischen Religion*, 1929). The possession expressed by the *lam* signifies the participation in something which originally belonged to the god,

i.e. the stone. By scratching his name, which was a part of his living self, on a stone, a man not only became part-owner of the stone but united himself thereby with the god inhabiting the stone and so assured his own immortality. Grimme believes that in the second century A.D. the *Ḥarrat er-Rādīl*, the residence of the god *Ruḍu*, was a place of pilgrimage for northern Arabs and that the inscriptions collected by Rees represent their work. The little stone houses which occur in this locality are too small to have been used as dwellings; Grimme would connect them with the practice of incubation. (On the Safaitic inscriptions compare Torrey's remarks in *The Excavations at Dura-Europos*, ed. Baur and Rostovtzeff, 1931, pp. 172-177.)

The Capitals of El Hasne in Petra.—As a contribution toward eventually determining the purpose and date of this building, for which there is no external evidence, K. RONCZEWSKI has published photographs or drawings of a large number of the capitals of columns and pilasters, together with a few comparable pieces in museums in other countries. *Arch. Anz.* 1932, pt. 1/2, cols. 38-89; 39 figs.

PERSIA

The Age of Susa I and II.—In *R. Arch.* xxxv, 1932, pp. 207-217, A. HERTZ on the basis of archaeological evidence would place the proto-Elamite Susa II period in the fourth millennium, and would date the earliest stratum of El Obeid in Mesopotamia about 5700 B.C. and Susa I about 6000 B.C.

Excavations at Tepe Hissar.—The University Museum, Philadelphia, with the coöperation during the earlier months of the campaign of the Pennsylvania Museum of Art, and later of the American Institute for Persian Art and Archaeology, has completed more than a year of practically continuous work at Tepe Hissar, a site near Damghan. In the main mound with its extensive lower terrace, a stratum characterized by gray pottery was found superimposed on a deposit defined by painted pottery. A low mound with a few Islamic surface remains covered a remarkable Sassanian building constructed on prehistoric deposits. Without attempting any definite dating at this time, the prehistoric strata at the site may be dated from roughly 3000 B.C. to roughly 1500 B.C.; the painted pottery culture (Hissar I) was followed by two phases of the gray pottery culture: Hissar I and II.

Hissar I excavations have been only soundings, and hence did not uncover coherent building complexes. The walls found were constructed of straw-tempered mud layers, rather than individual bricks. No fired brick was found in any of the strata of prehistoric Tepe Hissar. The pottery of Hissar I was the product of an already advanced potter's art, with wheel technique and rather elaborate forms. On a ground of buff, brown, or red are dark gray or brown patterns of varied types—both geometric and conventionalized naturalistic: especially the ibex, gazelles, and birds. Copper was the only metal found in Stratum I, notably copper pins (found in many cases in one of the vessels of a burial) and daggers with long, slender blades. Many of the numerous seals appeared to have been employed merely as ornaments. Surprising for northeastern Persia of the third millennium was the appearance of frit seals.

The extraordinary frequency of animal figurines in all strata indicates their use as magic images. Sheep and rams were the most numerous, and an interesting corollary was the abundance of spindle whorls found in Stratum I. Stone implements were no more frequent here than in later strata, despite the greater proximity of Hissar I to the Stone Age. Bone objects were scarce. A great wealth of gypsum, frit, and other stone beads was found in the burials of Hissar I.

The burials of this period showed no traces of grave enclosures, coffins, or the like. They occurred below every building investigated. Massed burials were found only in Stratum III. Hissar I burials had contracted legs, and the face, with but few exceptions, pointed towards the right side. Mortuary equipment consisted of painted bowls, jars, and cups; a copper pin; seals or seal-shaped ornaments; and beads. Apparently the people of Hissar I gave way to those of Hissar II who came as invaders, gradually implanting their culture. However, no trace of any battle was found.

The excavation of test squares, only, in Stratum II precluded the finding of complete building complexes. Gray bowls, jars, and goblets with stems and expanding bases were the typical pottery of Hissar II. Most of the pottery showed wheel marks. Mutual absorption of certain ceramic features took place in the transition from I to II; shapes of many of the bowls and jars of II are identical with those of the painted ware of I, but the exaggerated stems are char-

acteristic of II and not of I. The copper objects of II were superior to those of I. Objects of silver and lead appear for the first time. All silver objects are ornaments. The first copper seals at Hissar appear in Stratum II, but there were no outstanding pottery sculptures or stone objects. There was, however, a wealth of ornaments of various kinds.

Stratum II was primarily defined by the mortuary equipment of the early graves in the bottom remains of the gray pottery deposits. About thirty burials gave conclusive evidence as to the main distinctions between Strata II and III, and there was apparently no definite break between the two periods.

Stratum III of Tepe Hissar was mainly investigated in a section on the main mound, but it extended over most of the site. Rooms were defined at a few spots only. One of the most typical pot forms of Hissar III is the bottle pitcher. Not a single bowl, cup, pitcher, or jar in any stratum was supplied with a handle which would accommodate fingers or the whole hand; holes for suspension, or grips of ladles, alone occur. Use of the potter's wheel seemed to be wholly absent during Hissar II, despite features otherwise far advanced over past culture periods.

Hissar II workmanship in metal excelled that of Hissar I, and, in turn, the people of Hissar III far surpassed their predecessors as to metallurgic skill and variety of metal products. Extraordinary copper bidents, some of them intentionally "killed," and a large copper disk of unknown use, covered with coats of fibrous matter on either side and with concentric circles stippled in repoussé fashion, were among the more unusual copper objects of this period. Vessels of silver, lead, and copper occurred in Hissar III only in the graves of the wealthiest persons. An attractive, though odd-shaped silver pitcher with a globular body and a long bill spout is worthy of especial note. An interesting combined trident and ladle was probably used for culinary purposes. A valuable hoard of objects from the last phase of Hissar III was found in early refuse of Hissar II: five heads of mountain goats cut out of sheets of gold had gracefully carved horns measuring more than five inches in breadth. Little sculptures of copper and silver, alabaster, serpentine and clay, reflect the artistic sense and skill of the Hissar III people. Many other objects of gold, onyx, chalcedony, and alabaster are of great aesthetic value as well as of archaeological importance.

Spontaneous western (i.e. Mesopotamian) influence may be assumed from the fact that during the last prehistoric period at Tepe Hissar stone vessels of highly elaborated forms suddenly appear, while in Mesopotamia stone vessels had been extensively employed for more than a millennium. Two seals also suggest, by their subject matter, that they were imported from Mesopotamia. Unique among the stone objects were two alabaster specimens of problematic use: one a smooth concave cylinder with a shallow diametrical groove across either base ending in rectangular depressions which are cut out of the margins; the other a smooth disk with a grip: standing vertically this "shield" fits into the grooves of the cylindrical object.

The mortuary equipment of prominent Hissar III persons always included a curious device: a copper rod usually ending in a bulbous base. Of the 180 skeletons or skulls of the Hissar III period found in the main mound, four graves were of outstanding persons, and of these three are rather isolated, the fourth being partly enclosed by a crescent of crowded burials at a respectful distance, indicating a person of high rank whose survivors desired to bury their dead close to him. Communal pit burials were also found in this cemetery. In none of the prehistoric burial groups was there any rule concerning orientation of the bodies. Plain earth burials were the rule; mud cists seldom occur. Definitely Mongoloid features were noticed in several of the skulls, but the bulk of the Hissar III population apparently belonged to the Caucasian race.

The end of the period of greatest achievement coincides with the desertion of the site about three and a half millennia ago. About two millennia later the Sassanians built a palace on the peripheral remains of the ancient towns. No traces were found of war or conquest by foreign people during the period of Hissar III, and it must be assumed provisionally that the community was wiped out by an epidemic.

The ground plan of the Sassanian palace was determined, and the wealth of architectural and decorative fragments permit of a fairly accurate conception of the original appearance of the building. It was impressively ornamented with white stucco plaques on which were reliefs of boars' heads, stags, ibexes, human busts, and other designs. Traces of polychrome paintings were found on wall fragments and elsewhere; one

of these pictured a horse with harness decorated with rosettes and flowing ribbons. Arches and friezes were all elaborately decorated also, but most impressive was the colonnade, with its large mud-brick columns covered with a shell of decorated stucco; a number of these columns remained standing in fragmentary condition. Other more slender columns apparently formed a garden pavilion beyond the main structure.

Finds of small objects around the palace were exceedingly rare; not a single intact pottery vessel was discovered, though a number of glass beads and fragments of iron and bronze were found. A few copper coins may, after treatment, become sufficiently legible to give the accurate date of the building.

A complete report on the Tepe Hissar excavations has not yet been published. Short accounts have appeared in the *University Museum Bulletin*, Vol. 3, Nos. 1, 3, 5, in the *Bulletin of the Pennsylvania Museum of Art*, Vol. XXVII, No. 147, and in the *Illustrated London News*, Jan. 28, 1933, pp. 116-119.

SYRIA AND PALESTINE

Inscriptions in Syria.—A considerable number of Greek, Latin, and Nabatean inscriptions discovered by M. DUNAND in the course of journeys into the *Djebel Druze* and the *Hauran* between 1925-29 are being published in the *R. Bibl* (July, 1932, pp. 397-416; Oct., 1932, pp. 561-580). These will supplement the collections of W. H. Waddington (*Insc. de la Syrie*) and of the Princeton Expedition (*Publications of the Princeton University Archaeological Expeditions to Syria in 1904-5 and 1909*, Division III). Texts already published elsewhere will be given only if Dunand's copies authorize new readings.

Excavations.—The editors of the *Quarterly of the Department of Antiquities in Palestine* are meeting a long-felt want in supplying a concise up-to-date bibliography of all the excavations which have been conducted in Palestine. Vol. i, 1932, pp. 163-199, lists all the work which has been done in or near Jerusalem. A map of the city, showing the location of the sites excavated, accompanied by cross-references to the bibliography, is given; also *addenda* to the bibliographies of other sites, given in earlier portions of the *Quarterly* (pp. 86-94, 139-149). A map to accompany the completed bibliography has been compiled by the *Palestine Exploration Fund* and is published in its *Quarterly Statement*, Oct. 1932.

A brief survey of the work done in Palestine during the season of 1931 will be found in the *Quarterly of the Department of Antiquities*, Vol. i, 1932, pp. 157-162, that of the season of 1931-32 in Vol. ii, pp. 184-194.

Phoenician Settlement at 'Atlit.—The *Quarterly of the Department of Antiquities*, Vol. ii, 1932, pp. 41-104 (24 plates, 94 figures), contains the full report by C. N. JOHNS of the excavations conducted by the Department on the site of 'Atlit during the season of 1930-31. The most surprising discovery was that there had been a Phoenician settlement here from about 900 B.C. down to Hellenistic times. The evidence was found in the burial-ground in the rocky ridge at the south-east corner of the town. Fourteen tombs have so far been cleared. In most the original arrangement has been confused by a succession of burials, first in the chambers and afterwards in the shaft. But a few intact burials could be dated by Phoenician coins and other means to the latter half of the Persian period, the fifth and fourth centuries B.C. The contents of the tombs reflect a mixed culture typically Phoenician. For example, on the scarabs Herakles is depicted in Gilgamesh fashion as slaying a lion which he holds up by the hind leg. Other examples of this treatment of Herakles have been found at sites which were closely connected with Phoenicia. The majority of the objects discovered were women's ornaments, many of Egyptian origin or design. The ordinary decoration of a woman of this locality consisted of a heavy bronze anklet (always worn on the right ankle), a pair of silver earrings, an iron finger-ring, and a necklace of blue or green glass or frit beads, which usually included a sacred eye amulet. Many of the beads were of the "stratified eye" type common throughout the whole Mediterranean area during the Persian period. Some broken specimens of Greek painted pottery were found, the earliest being Attic black-figured lekythoi of the sixth century B.C. There were also a few samples of a ware which was neither as fine nor as bright a red as Cypriote geometric nor as hard as *terra sigillata*. JOHNS suggests that this ware may represent an extension of the Attic industry into Asia Minor, perhaps at Pergamum. The commonest type of pot found in the graves was a long jar or amphora pointed at the base and almost hole-mouthed, resembling forms from the Persian period found in the Egyptian Delta and elsewhere. About a third of

the burials contained very few objects of any kind. The absence of amulets and of Egyptian objects was particularly striking. JOHNS suggests that these were the graves of men; the occurrence of a few javelin- and arrow-heads of European types suggests further that they were Greek mercenaries who had settled here on their discharge. And we know that in the period to which these tombs seem to belong (early fourth century B.C.) Greek mercenaries were being employed on a large scale by both Persians and Egyptians.

Excavations at Tell-en-Nasbeh.—Tell-en-Nasbeh, the Biblical Mizpah, seven miles North of Jerusalem, was excavated under the direction of Professor Badé. The temple, which seems to have been dedicated to Astarte, is dated at 900–700 B.C. Among the important finds is the agate seal of Jaazaniah, a contemporary of Gedaliah.

Excavations in Samaria.—Owing probably to the absence of a water supply, Samaria did not become a great city at an early date, though traces of an early Bronze Age settlement have been found. About 880 the hill was bought by Omri, and under him and his son Ahab reservoirs and other buildings were erected. Under fine Hellenistic walls have been found traces of Israelite walls dating from the time of Omri and his son. On the summit near the northern enclosure wall were discovered some fine ivory plaques of two types; the first are in low relief with gold leaf and enamel inlays, representing Egyptian subjects, Harpocrates, Isis, Nephthys, Hah, and so on, while the second, often pierced, are of Syrian style and represent cherubim, sphinxes, lions, bulls, palms, and flowers. Probably these ivories decorated furniture, though it is possible that they were let into the walls, thus accounting for the name of Ahab's "House of Ivory." Under the Roman Empire a great city arose on the site, but it was later known only to pilgrims to the so-called tomb of John the Baptist. Besides the well-known cathedral built by the Crusaders, a second church was found by the present excavators, completely buried although the walls remain to a height of more than 12 feet. John Phocas of Crete who visited it in 1185 describes the tiny chapel above the pit into which the head of John had been thrown by Herodias, mother of Salome. Above this are to be seen remains of a wall-painting showing the martyrdom of Saint John and the finding of his head. The legend is, however, late. J. W. CROWFOOT in the *Illustrated London News*, Jan. 21, 1933, pp. 84–85.

Pre-Hellenistic Greek Pottery in Palestine.—The gradually increasing number of fragments of early Greek pottery found in Palestine is disproving the old idea that Greek influence in Palestine began with Alexander. Rather, it would seem that his military conquest had been preceded by at least three centuries of "peaceful penetration" on the part of Greek merchants. In the *Quarterly of the Department of Antiquities in Palestine*, Vol. ii, 1932, pp. 15–26 (5 plates), PROF. J. H. ILIFFE lists and describes most of these early pottery fragments (4 pieces of the seventh century B.C. found at Askalon; 28 of the sixth and fifth centuries found mainly at Tell Jemmeh, about 8 miles south of Gaza; and 5 others). Five of the fragments belong to the Black-Figure ware, of which the best known class is the Boeotian Kabeiric. Few of this type have been found outside Greece and none so far south. Further finds of pre-Hellenistic pottery have recently been made at Beth-zur (cf. *B.A.S.O.R.*, No. 43, *Pre-Hellenistic Greek Pottery in Palestine*, Oct. 1931, pp. 2–13), which proves that Greek influence was not confined to the coast but had penetrated some distance inland.

Greek and Latin Inscriptions.—The Greek and Latin inscriptions in the Palestine Archaeological Museum are to receive fresh treatment wherever necessary in the *Quarterly of the Department of Antiquities*. The first instalment by J. H. ILIFFE appears in Vol. ii, 1932, pp. 120–126 (3 plates).

Mosaics.—A catalogue of all the mosaic pavements found in Palestine has been compiled by M. AVI-YONAH and is being published in the *Quarterly of the Department of Antiquities*. The first instalment appears in Vol. ii, 1932, pp. 136–181 (with tables of patterns).

Cult of the Dioscuri in Samaria.—On the basis of two *haut-reliefs* found in Samaria and regarded as older than the third century A.D., it has been conjectured that there was a cult of the Dioscuri in that city.

Ancient Street Levels in Jerusalem.—The engineers engaged in the repair of a section of the sewer beneath the *Tariq al-Wād* (the Tyropoeon Valley of Josephus) in 1931 discovered traces at more than one point of two ancient street levels. The first was 2.90 m. and more below the present surface, and consisted of large flag-stones of white limestone more than a metre square and about 30 cm. thick. It was apparently constructed at the same time as the sewer beneath it, with which

it is connected at intervals by manholes. R. W. Hamilton would assign it to the early Byzantine period ("not earlier than Constantine or Eudocia"). The second street was found 2.10 m. below this one, and is thought to belong to the Herodian period. At one point a wall 14 m. thick was encountered. It is believed to be a part of the foundation of the viaduct which carried the Byzantine street across the Tyropoeon Valley to the Temple area. (*Quarterly of the Department of Antiquities in Palestine*, Vol. i, pp. 97-100, 105-110; Vol. ii, pp. 34-40, with diagram and plate.)

ASIA MINOR

Early Bronze Age Discoveries in Cyprus.—On the interesting plastic representation of the ritual snake-dance found at Vounous over a year ago further light has been shed by this year's finds. From them it is evident that the snake and bull were associated, for in a tomb in which was the skeleton of a bull were discovered pottery models of bulls' horns, probably part of the ritual dress of the officiating priest, and a bowl with bulls' heads and pendant snakes modelled on the rim. The mother-goddess present in last year's find appears with a child on a curious vase with four cups at the base. A plastic representation of a ploughing scene in which women with babies look on while the oxen draw the ploughs which their husbands guide is one of the earliest known representations of a plough. Very interesting is the inscription incised in linear characters on the handle of a red-polished jug; it shows certain affinities with degenerate hieroglyphic script but contains several signs peculiar to Cyprus. (P. DIKAIOS in *The Illustrated London News*, Dec. 10, 1932, pp. 928-9.)

Has Hüyük.—Excavations were made in the summer of 1931 by L. DELAPORT in the mound of Has Hüyük (S. E. of Boghaz Keui) for the purpose of establishing the comparative chronology of a representative Hittite settlement. A trench sunk to a depth of over 15 m. (about the height of the mound) went below any traces of human occupation, and the strata passed through were such as occur elsewhere in western and central Asia Minor, from the earliest time to the end of the Bronze Age. The lowest inhabited level had well-baked, polished, black pottery, but no traces of mud or stone dwellings. In the next higher level was a coarse, heavy, dull-colored ware; still higher and continuing to the top was red ware of

various shades, hand polished and latterly showing geometric painted ornament. On the surface was found pottery with naturalistic decoration together with iron objects. Other small finds were some votive horns, one such decorated with a highly stylized face, being found intact, and an inscribed Egyptian seal used as an amulet. The site was abandoned toward 1000 B.C. and remained so until late in the nineteenth century. *Arch. Anz.* 1932, pt. 1/2, cols. 230-233; 2 figs.

Excavations at Alishar Hüyük.—The work carried on since 1926 by the Oriental Institute of the University of Chicago on this site (near Yozgat, now Bozok, S.E. of Boghaz Keui) has revealed nine successive stages of its history, many of them having several subdivisions. In the neolithic period, when it was a low eminence surrounded by marsh or lake, it was perhaps used chiefly as a refuge. After an eneolithic stage of habitation, there was in the early Bronze Age a fortified citadel with surrounding villages. The fourth period, that of the Hittite Empire, had some commercial relations with Cappadocia. In the fifth, or late Hittite, the citadel was again strengthened, and in the succeeding Phrygian period, part of the lower town, on a wide terrace, was included in the fortifications. After several comparatively uneventful centuries during Persian, Cappadocian and perhaps Galatian dominance, there was again a strong development in Roman and Byzantine times and a late, unimportant Turkish and Armenian occupation. This sequence is typical of many habitable positions in central Asia Minor. The various stages are represented here by remains of dwellings, burials, pottery, and implements of different kinds, sometimes by sculpture, inscriptions, or imported objects. H. H. v. d. OSTEN, *Arch. Anz.* 1932, pt. 1/2, cols. 208-230; 33 figs.

Roman Remains in Angora.—In 1931, members of the Constantinople branch of the German Archaeological Institute investigated a piece of Roman street and remains of buildings which were discovered in laying out a new road on the N.W. limits of the city of Angora. The ancient street, running toward the N.W., was bordered on the left by a stoa, of which the stylobate was found *in situ* and some Corinthian capitals, architrave blocks in one piece with the frieze, and column bases were scattered about. It is all in a blue-veined limestone, and the somewhat clumsy and lifeless work is like all the rest of the Roman architecture found in the city. An architrave

block is inscribed *μητροπόλει τῆς Γαλατίας*. The stoa is of the second century but not earlier than Hadrian, and the paving of the street, of the first century. On the same side of the street but at a slight angle with it is the corner of a large building of the third century, a square projection of which encroaches on the area of the stoa and must have destroyed the rear wall. The walls of this building are of opus incertum, but in the projecting tower (if such it was) there is a horizontal stripe of brick work 26 cm. wide, with masonry of small stones above. Something like this exists in the Hippodrome at Constantinople and in the imperial baths at Trier. Inside and parallel to the N.E. and S.E. walls of the building is a double wall forming, apparently, a water conduit in two levels, the lower channel with vaulted top serving not to contain water but to give elasticity to the true water channel above, for varying pressures. A similar arrangement is known at Pergamon. No two of the known Roman remains in Angora have the same orientation, and the street in this quarter gives two more. The irregularity may have been taken over from the Galatian city, which was originally a converging point for incoming roads.—In a Christian burying ground east of the railway station were found Greek epitaphs of "servants of God," Theodotos, Maria, Margareta, Kyriakos, not earlier than 400, and the vaulted crypt of a small funeral chapel with apse toward the west, apparently of the early fourth century.—On the northern outskirts of the city was found a fragment of a replica of the Sidamara sarcophagus in Constantinople.—A quantity of broken Roman pottery similar to that found in the Rhine country and including sigillata ware and a piece of drain-tile, with some of local manufacture, were found in the city.—Other traces of ancient life are a Roman milestone of the year 213 A.D., a palaeolithic flint core, and two settlement mounds S.W. of Angora, both having a terrace for a lower town to the south of the higher portion or citadel. K. O. DALMAN, A. M. SCHNEIDER, K. BITTEL, *Arch. Anz.* 1932, pt. 1/2, cols. 233-261; 3 plans, 8 figs.

GREECE

GENERAL AND MISCELLANEOUS

Archaeological Discoveries in Greece and the Islands, 1931-1932.—In G. KARO's annual survey of archaeological work in Greek lands and the Dodecanese for 1931 to 1932, a few of the points

brought out are the following: In Eleusis, excavation down to native rock under the Telesterion shows that here was the centre of the early prehistoric settlement, with Minyan sherds and Middle Helladic graves, and also of the Mycenaean town, which contained a large megaron house of more than one period. In the Telesterion itself are further evidences of changes of plan, both in the time of Ictinus and later, while a trace of what may have been the *ἀνάκτορον* is seen on the west side of the area. On an old road leading off the Sacred Way west of Daphni are remains of houses of an unidentified Attic deme.—In Boeotia, the sanctuaries of Demeter at Lilaia and Drymaia seem to have contained no temple building.—The mass of votive offerings at Perachora continues to yield bronzes and ivory carvings and countless imported objects, among them an Egyptian bronze mirror with the figure of the goddess Mut and a hieroglyph inscription, of 700 B.C., and a carnelian scarab with Heracles the Archer, an Ionian work of the period 550-500 B.C.—In the Peloponnese, the foundations and part of the sculptured elements of an early Christian basilica near the coast north of Sicyon may mark the site of New Sicyon. In Nauplia, a fine Venetian well-house has been cleared of encumbrances,—one of the all-too-few baroque remains in Greece. Near Sparta, a tomb of the first or second century A.D. is found to contain frescoes in Pompeian style with single figures in panels, of Apollo and the Muses.—In Aetolia, in the prehistoric settlement at Thermon, the apsidal houses and oval temple are found to have had vaulted roofs. In the Greek agora were found blocks from two lofty triangular pedestals for statues, like those of the Messenian Niké at Delphi and Olympia.—In Thessaly, two sites explored near Pharsalus are that of Old Pharsalus, abandoned before 400 B.C., and probably that of Euehydrión. From the latter comes a bronze statuette 30 cm. high, of 600-550. On the hill of Goritza east of Volo are walls, probably of Orminion, with a curious tunnel under the fortifications and in the cemetery, tombs with architectural decoration on the inside and fine gold and silver objects. In the great church at Nea Anchialos (Thessalian Thebes), the religious centre of Christian Thessaly, foundation and sculptural remains indicate three periods: Roman of the third century, Justinian of about 500, and a final one of the seventh or eighth century, with singular flat decoration.—In Macedonia, the battle field of Pydna (168 B.C.) and the

neighboring country have been explored, with a number of Hellenistic and earlier sites. At Philippi, the Roman forum and adjoining public buildings, especially a Corinthian temple of about 200 A.D., have yielded mosaics, statues and inscriptions.—In Aegina, on the west slope of the temple hill, were found pits filled with miniature vases of about 550–500, covered by omphalos-shaped stones with an inscription ΦΡΑ[ΤΡΙΑΣ], indicating a hero-cult. The omphalos seems to have similar associations in Hellenistic remains at Mitylene and on Roman gentile coins and wall paintings.—At Thasos, a huge pithos of red clay with flat, incised reliefs resembles the large Melian amphoras. At a site not far from the temenos of Poseidon are remains of prehistoric and polygonal masonry and Roman buildings destroyed in Byzantine times, probably belonging to a religious area.—At Polychoini on the east coast of Lemnos, a neolithic settlement of three periods, the last one merging into the Bronze Age and all probably destroyed by earthquakes, is the best built and best planned town yet found of so early a period. A broad, well-paved main street has a small plaza and a well in the middle, straight side streets, and comparatively large and well-built houses, with their ovens, storage jars, tools, and agricultural implements intact and remains of domestic animals. Nothing Mycenaean.—The prehistoric town at Thermi in Lesbos has five strata, and in the uppermost one, a megaron house of a type developed from the long rectangular houses which occur in all the lower layers. The pottery corresponds with the various forms from Troy I to VII, and includes a little Mycenaean. In the successive strata at Antissa were found gray Minyan ware, red ware, Mycenaean, and Lesbian bucchero, the last possibly derived from the Minyan.—In Ithaca, Homeric investigations continue at various points.—In Crete, in the royal tombs near Knossos, the skull of one of the latest burials, about 1400 B.C., is pronounced a cross between the native Mediterranean race and the Armenoid invaders. A finely cut and lifelike portrait head on a steatite seal represents a foreigner. On the shore north of the grotto of Eilithia was found the harbor town of Amnisos, with remains from the Minoan periods and especially some fragments of frescoes in a peculiar technique, the floral design being inlaid, like the patterns on Mycenaean daggers. The little known ruins of Lasaiia (Acts 27, 8), on the south coast, have been again studied. At Mallia, the palace of about 2000

B.C., with well-preserved stucco floors, is found to have the same general plan as the later palace, but extending farther to the south. A burial ground of MM I period and parts of the town, with large and elegant houses, have been uncovered.—In Rhodes, in the sanctuary of Apollo Erethimios, a Doric temple *in antis* of porcs and marble, of about 400 B.C., is of interest because so little is known of East Greek work of that period. Inscriptions give details of the cult. In the neighboring theatre, of like date, plays were given in honor of the god. A great cistern which once supplied water for the hill of Camirus is older than most such works in mainland Greece. On the island of Nisyros, Rhodian ware and local imitations occur in a seventh-sixth century cremation cemetery, with some Attic vases which place the Rhodian vases some decades later than they have been dated.

New Discoveries in Ithaca.—The third season in Ithaca of the British Expedition promoted by Sir Rennell Rodd has further established the probability that the island is indeed the Homeric Ithaca. At Aetos, in the southern part of the island, cairns were found heaped over ashes on a floor of potsherds, dated in the proto-Geometric and proto-Corinthian periods. Vases in great abundance were found illustrating all phases of development and showing also local forms of shape and decoration. Among these the most interesting are a proto-Corinthian jug bearing the inscription *Kalikleas (e) poiase*, an oenochoe with a fish painted on the bottom, and a bird-shaped vase which was filled above the tail and emptied at the beak. The votive offerings comprise bronze, amber and ivory ornaments carved to represent animal and human figures. A wall running at right angles to the shore at the harbor is dated by the pottery in the fourth or third century B.C. A small cave at the west end could not be explored because the floor lies a metre and a half below the level of the sea, but fifteen late Mycenaean sherds of good style were removed. The similar cave at Polis when pumped dry proved to contain sub-Mycenaean cups, Mycenaean and pre-Mycenaean sherds, and a beautiful bronze tripod over a metre high, with two vertically set engraved handles surmounted by an animal. Parts of six others were also found, all dating in the eighth century. A bronze statuette of a bearded man from the Geometric period and the upper part of a large female figure of the sixth century were also found. (W. A. HEURTLEY in

the *Illustrated London News*, Jan. 14, 1933, pp. 45-7.)

Excavations at Dodona.—In *Praktika*, 1930, pp. 52-68, Professor D. EVANGELIDES summarizes the results of his excavations at Dodona. He has completely cleared the early Christian basilica, noteworthy for its three apses, and has uncovered the foundations of several buildings adjacent to this basilica. One of these was a small temple of the fourth century B.C. In the vicinity of this temple was found an archaic bronze statuette of a hoplite, complete except for the crest of the helmet, and the shield. It measures $13\frac{1}{2}$ centimeters in height and is an admirable work of the early Peloponnesian school. Among the other objects found are lead plates on some of which are inscribed questions addressed to the oracle and the answers thereto, while others are decorated with reliefs.

Western Europe and Greece.—In *Zeit. für Ethnol.*, 1932, No. 1/3, pp. 127-130, SCHUCHHARDT presents a paper motivated by his visit to Ireland to "elucidate the Ancient Greece." "What have these two countries, the most north-westward one and the most southeastward one in Europe to do with one another?" The answer to this highly presumptuous question would hardly exceed one word with those who really know something about the archaeology of either of these two countries. However, the enticing title and the learned author do solicit attention, the merit of the presentation notwithstanding.

Schuchhardt starts with the following premise: Greek folk and culture developed out of three strata: (1) the Pelasgic-Karyan, (2) the Mycenaean, (3) the Dorian. Upon the Pelasgian-Karyan foundation, characterized by round huts, there superimposed itself around 2000 to 1800 B.C., a Nordic (sic) migration which brought in the megaron (sic) and which blended with the underlying stratum to produce the Mycenaean culture. Around 1200 B.C., there followed a second Nordic (sic) wave, the Dorian migration, with pile structures and the Dipylon culture. While the two infusions are more or less clear, the "Urschicht" presents serious difficulties because it is so completely overlain by precious (irremovable?) monuments. However, certain soundings (Tiryns, Orchomenos, Olympia) show that it was quite similar to the Neolithic and Early Metal cultures which "lie before our eyes" in the Western Mediterranean, Spain, France, Southern England, and Ireland. ". . . so we can go there

for advice on what in Greece remains still undisclosed."

The author upholds Hubert Schmidt's aged contention that the Iberian peninsula was the centre of origin of the domed structures (megaliths) and all their associated culture traits. From there, tomb building, bell beakers, earliest metal work (sic), radiated in all directions. "A Spanish tholos grave such as the one at Romeral is fully as beautiful as the Atreus tomb of Mycenae and yet, some centuries older." The Mycenaeans had often adopted western Mediterranean customs and concepts. Witness the find of the Swedish Expedition in 1928 of two rock-cut tombs with two menhirs, a battle table and an altar nearby. "The road to Greece is marked by stone monuments in the Balearic Islands and in Malta." The Dorian immigration caused a break in western traditions and brought about the sullen underworld picture as portrayed by Homer. However, at the height of Greek philosophy, especially at the time of Pythagoras, old beliefs were revived, only to be discarded soon again.

Whether Schuchhardt's visit to Ireland really helped him to "elucidate the Ancient Greece" as the heraldic first sentence would lead one to expect, is left for the reader to guess. The impression one gathers is that the author should have gone to Spain, to get some ideas for Ireland. But it seems that a trip to Greece would have really been more to the point, and that it might have given the author some idea of the difficulties involved in an attempt to "elucidate the Ancient Greece" on the basis of a merely informative excursion.

Cremation in Minoan Times.—In 1929 at Tyllissos in Crete was found a lebes containing human bones which had unmistakably been exposed to a hot fire. The lebes was certainly made for cinerary purposes, since it had no handles, and its sides were too thin for use over a fire. With the bones were fragments of a bronze spear and dagger, two pieces of iron apparently belonging to a knife, and fragments of two bronze fibulae. Beside the lebes was found a false-necked amphora. The fibulae and the iron indicate the end of the Minoan Age, the Sub-Minoan period, but the decoration of the amphora, a scale pattern in an oval field, shows that the burial lies within the limits of Minoan culture. Evidence of cremation in Crete during the geometric or proto-geometric period has been found at Vrokastro and Moulana, but the lebes from Tyllissos gives the first known instance of the practice of cremation

in Minoan times. (E. MARINATOS, *Ath. Mitt.* 56, 1931, pp. 112-118, 4 figs.)

Double Protomes and Twin Heads of Animals.—In *R. Arch.* xxxv, 1932, pp. 197-206 (13 figs.), A. ROES deals with the votive double protomes and twin heads of animals in European art. For both an oriental origin seems probable. The double protomes of birds which are characteristic for the Villanovan and Hallstatt civilizations do not seem to be of European origin, for the cult of the solar bird is of oriental origin, and, though common in geometric and Villanovan art, is not found in the following period.

The Peleïades.—In *R. Arch.* xxxvi (1932), pp. 77-93, ALEXANDER KRAPPE discusses the doves of Dodona, which are birds of the thunder and belong to the cult of Zeus or of his predecessor. They are the Γραῖαι, ordinarily two in number and believed to be the twin daughters of Porkos. Porkos is an ancient god of the oak tree and of the thunder; his name is the equivalent of the Latin *quercus* corresponding to the Vedic Parjanya, the Baltic Perkuns, the Slavic Perun, and the Scandinavian Fjorgyn. The priestesses were originally considered his daughters and designated by the names of Πελαῖδες and of Γραῖαι, as the twin daughters of the god; thus in Syria the priests of the god of the thunder bore the name of the celestial twins who were his sons.

The Fundamental Numerical Data of Ancient Geography.—In *R. Arch.* xxxvi (1932), pp. 1-34, ANDRÉ BERTHOLET discusses the work of ancient geographers, especially Eratosthenes, Dikæarchos, Hipparchos, Poseidonios, Agrippa, Marinus of Tyre, and Ptolemy. The astronomical observations left little to be desired and the estimates of distances of routes were exact, but the underestimation of the value of the degree presented an obstacle to the coördination of the two sources of calculation of the geographical plan. The inaptitude of the ancients in measuring directly the angles falsified the direction of land and sea routes, so that, in order to make the astronomical and terrestrial measures agree, the countries were deformed on the maps. Ptolemy only partially corrected the errors of his predecessors, because he was hampered by the initial mistake on the dimensions of the terrestrial sphere. As a unit of measure he employed the Egyptian stade adopted by Eratosthenes, but unfortunately he chose the unitary value of the degree calculated by Posidonius rather than the almost exact value determined by Eratosthenes.

Aristotle's Constitution of Athens.—In the *Annual of the Institute of Classical Studies at the University of King Ferdinand I at Cluj*, Vol. I, pp. 54-64, ST. BEZDECHI considers Aristotle's Constitution of Athens. He treats with sympathy the system of Peisistratos and opposes demagogues like Pericles, although in the Politieia he is much more sympathetic to the democratic leaders. He apparently had a great admiration for Tharmenes with whose theories he here sympathized.

Terra Sigillata Plates.—In *Ath. Mitt.* 56, 1931, pp. 75-86 (10 pls.; 4 figs.), K. KÜBLER describes a group of terra sigillata plates, represented by many fragments which were found by the German excavators near the Dipylon. They belong chiefly to the fourth century A.D., but some of the finer specimens, which show Egyptian influence, were made in the latter part of the third century A.D. Christian emblems, except the fish, are absent. The shapes are Egyptian, and the ornamental patterns indicate Pannonian influence.

Genuine and Forged Antique Bronzes.—A bronze "Apollo" statuette in Copenhagen, which was first published by F. POULSEN in 1920, has been considered by some scholars a modern forgery, but it has been proved to be genuine by chemical and X-ray tests in comparison with an Etruscan bronze and a modern bronze head. The alloy of the two ancient pieces contains a larger proportion of copper than the modern one, and this causes them to be more easily penetrated by the X-ray. Both of them contain the core of the casting, while the modern piece is hollow. (F. POULSEN, *Arch. Anz.* 1932, pt. 1/2, cols. 100-103; 2 figs.)

SCULPTURE

Athena Promachos.—On lamps of the second century A.D., found near the Dipylon, is represented a bust of Athena with a high-crested Corinthian helmet. This is one of the two leading types of the Athena bust found on Attic coins of the imperial period, on Cyzicene staters of the fifth century B.C., on fourth century silver coins of Velia, and on Alexandrian coins of the third century A.D. The second type, in which Athena wears the Attic helmet, was evidently inspired by the Athena Parthenos. It is, therefore, probable that the type with the Corinthian helmet was taken from the other colossal Athena of Pheidias, the Promachos. The series of coins with a representation of the Acropolis seen from the west confirms this view, and adds to our

knowledge of the pose and attributes of the Promachos. The goddess stood resting her weight on the right leg, with a Nike in her right hand, the shield on her left arm, and the spear on her left shoulder. (B. PICK, *Ath. Mitt.* 56, 1931, pp. 59-74, 3 pls., 2 figs.)

Satyr with the Foot-clapper.—A fragmentary Roman sculpture reproducing the motif of the "Satyr with the Foot-clapper," found by the German excavators near the Dipylon, is published by F. MUTHMANN, *Ath. Mitt.* 56, 1931, pp. 87-89 (2 pls.; 1 fig.). It was used as the decoration of a fountain. The tree trunk at the side of the Satyr belongs in style to a group of similar supports of statues produced about the middle of the second century A.D.

A New Statue of Tyche.—A statue of Tyche, of fine-grained white marble, recently found on the site of ancient Prusias ad Hypium, in eastern Bithynia, has been placed in the Museum of Antiquities at Istanbul. The goddess wears sandals, a long chiton with half-long sleeves, an himation draped about the lower part of the figure, and a high diadem and mural crown decorated with acanthus leaves. The left hand and arm support a cornucopia full of fruits and grains, on the lower end of which sits a small child holding other fruits. The extended right forearm and hand which once held a steering-oar, are the only parts missing. This is the work of an artist of the Roman imperial epoch, influenced by fourth-century models. (A. AZIZ, *Arch. Anz.* 1932, pt. 1/2, cols. 261-264; 2 figs.)

INSCRIPTIONS

Greek Epitaphs.—In *Ath. Mitt.* 56, 1931, pp. 119-134, W. PEEK publishes a score of Greek epitaphs from the museums of Athens, Mykonos, Smyrna, Thebes, Chaeronea, Constantinople and Angora, and improvements in readings or interpretations of half a dozen epitaphs, already published, in the museums at Smyrna and Constantinople. Incidentally, in the epitaph from Eutresis (*A.J.A.* 1928, p. 179 f.) he regards the reading [κα]ραβάς, rather than [κα]ράρας, as certain, and differs from Miss Goldman in the interpretation of τὰ γελοῖα σιωπῶ: this phrase means, he thinks, not that Rhodios will jest no more, but that he now sees the ridiculousness of human life.

TOPOGRAPHY

The Pompeion.—In *Ath. Mitt.* 56, 1931, pp. 1-32 (10 pls.; 13 figs.), A. BRUECKNER gives a

preliminary report of the German excavations of 1929 on the site of the Pompeion in the Ceramikus at Athens. The Greek Pompeion, built in the first half of the fourth century B.C., was in the form of a gymnasium with an interior colonnade of 6 x 13 columns, a few small storage chambers at the rear and a marble propylon in front. Numerous graffiti and evidence of repairs to the stuccoed walls indicate a continuous and intensive use of the building until its destruction during the siege of Sulla, 86 B.C. For the next two centuries the site of the Pompeion was occupied by artisans, first a maker of purple dyes, then a blacksmith and a potter. The propylon, now roofless, was used for entrance to the shops (the remains of this period are described by W. ZSCHITZSCHMANN, pp. 90-97, 3 pls., 2 figs.). Under Hadrian a new and slightly smaller Pompeion was built at a level 1.50 m. higher than the former building, with an open area to the south, over the site of the Greek propylon. The Roman Pompeion was destroyed by the Goths in 267 A.D. About the middle of the following century, long before the building of the Justinian walls, a new city wall was erected south of where the Greek propylon had stood. The procession mentioned by Himerius must have started inside this wall, since the site of the Pompeion was now occupied by two potter's kilns.

Epigraphical evidence, hitherto lacking, that the identification of the Pompeion is correct is furnished by the name of the poet Menander, inscribed on a plinth of the outer wall of the Greek Pompeion, near a side entrance, for Pliny says that in the Pompeion were portraits of the comic poets. Other inscriptions mention the cults of Iacchos, Athena, Artemis, and Asklepios and Hygieia. The dedicatory inscription to Nemesis, found by the Greek excavators sixty years ago, has not been rediscovered. The grave inscriptions include (1) a pre-Themistoclean iambic dedication by [T]erpo to the memory of Melissa, (2) a retrograde inscription of imperial times belonging to a tomb in which man and wife were buried together, and (3) inscribed epistyle blocks of the magnificent monument to Aurelius Rufus, the sophist, erected by his mother. A fragment of an adjustable calendar, with holes for the insertion of the divisions of the month, dates from the early Hellenistic period. On the base of a herm is an ephebic inscription of 95/94 B.C. The name of the παιδοτριβής, Staseas, occurs on Delian inscriptions. The Parian marble head of

Hermes shows the archaic treatment of the hair. The beard is less angular than that of the Pergamene herm of Alkamenes, but seems to go back to an original of about the same date.

VASES

Lekythos by Amasis.—An early Attic lekythos, certainly the work of Amasis, which has long been unnoticed in the National Museum at Athens, is published by E. ΚΑΡΟΥΖΟΥ, *Ath. Mitt.* 56, 1931, pp. 98–111 (13 pls.). In shape the vase shows the first step in the evolution of the lekythos from the alabastron by the addition of a base and a more independent treatment of mouth and neck. The painted decoration represents a draped female figure standing between two men, of whom the one on the right is naked and carries a spear—perhaps Helen and the Dioskouroi, as on the Chest of Kypselos (Paus. V, 19, 3). The figures and the composition, the drapery, the beards of the men and anatomical details, leave no doubt that the vase belongs to the later period of Amasis. The author arranges in chronological groups 27 vases that have been recognized as the work of this potter.

ITALY

Excavations at Bologna.—In *Not. Scav.* viii, pp. 42–50, E. ANDREOLI reports discoveries in the *casa Benelli*, at the corner of the via Parigi and the via Porta di Castello, where in 1929 Roman remains were found and a stretch of the northern wall of the medieval "cerchia delle quattro Croci." A lead pipe was found bearing the inscription of two *vilici*, in charge of the distribution of water, the first example at Bologna of more than one such official; it seems to belong to the end of the first century A.D. Also a complex of Roman constructions of importance for the topography of Bologna, since they confirm the existence of a *compitum* formed by the via Galliera and a *decumanus minor*, of which traces have been found.

In *Not. Scav.* viii, pp. 51–88, A. Negrioli reports the discovery in the suburb of Bologna called Beverara, outside the porta Lame, of extensive remains of a large Roman villa, with several mosaic pavements, one of which has a polychrome "emblemata." Parts of the building date from the last days of the Republic or the early Empire, and the mosaics are assigned to a period from the middle of the first to the middle of the second century of the Empire. The presence of three

rooms with hypocausts and two large halls with mosaic pavements suggests that the building may have been a bath, but Negrioli is inclined to consider it a sumptuous villa with extensive bathing facilities.

Sculptures from Hadrian's Villa.—In *Not. Scav.* viii, pp. 120–125, R. PARIBENI gives an account of the discovery of sculptures at Hadrian's Villa in 1928, the publication of which was delayed in the hope of finding missing parts, a hope which, however, was not realized. About 60 m. of the cryptoporticus between the theatre and the so-called Poikile were cleared; the passageway seemed from its construction to be designed for the use of the slaves. The finds were: two pieces of a statue of more than life-size, one a vigorous male torso, truncated at the thighs and lacking the arms; the other the right leg and a tree-trunk. The two parts fitted perfectly. It was evident that the right arm must have been raised, and the left somewhat separated from the body. From a knot on the tree-trunk hang two *halteres*, showing that the statue represented an athlete. Paribeni thinks that the athlete was crowning himself, after the manner of the Polycleitan Kyniskos at Olympia (Paus. vi, 4, 12), but that the style suggests an original of an earlier date. Also, a marble head of a young woman, larger than life, lacking nearly all the neck and chin and a good part of the nose. It is clearly a head of an Amazon from a bronze original, and the finder thinks it a replica of one of the famous group in the Artemisium at Ephesus (Pliny, *N.H.* xxxiv, 53). It most closely resembles the head of the so-called Amazon of the Villa Mattei, now in the Vatican, or the head of the Amazon in the Palazzo dei Conservatori. Another head, not quite life-size, of Greek marble, resembles the statue of Hypnos in the Museo del Prado. A fragment of a marble relief shows the left hand and caduceus of Mercury and the upper part of a youthful goddess with a crown on her head and a mirror in her raised left hand; between them stands the knotted and leafless trunk of a tree. The relief suggests the three goddesses, accompanied by Mercury, presenting themselves to the judgment of Paris, a favorite subject in neo-Attic art.

Discoveries near Este.—In *Not. Scav.* viii, pp. 29–42, A. CALLEGARI reports various discoveries in this town and its neighborhood: in the district called Albrizzi remains of Roman buildings, with a few coins and brick-stamps; at Podere Schivo various small objects, including a curious terracotta

figurine, 110 mm. high, representing a mourning woman, perhaps a *praefica*; in the via Pozzeto, 1.30 m. below the present level, a Roman road, running northwest and southeast; in the Scolo di Lozzo portions of an aqueduct, and two *paterae* with the handle of a third. The *paterae* are of Etruscan workmanship and evidently were intended for sacrificial uses, although there are no remains of buildings in the neighborhood; in the former park of Pellesina remains of a Roman bridge and a mosaic pavement; at Meggiaro various small objects. At Schiavonia (Monselice) there was acquired from a dealer in antiquities a stele ornamented with what appears to be a military *genius*, or perhaps an Attis; also a small bronze statuette of Zeus. At Morlungo sundry small objects were found, including a knife with blade and sheath of iron and a handle of bronze; at Monselice a stone ash-urn of cylindrical form, with a niche containing a rude figure of a seated man in a *paludamentum*. A fragmentary inscription on the urn is dated by Callegari in the first century A.D., but the urn was used much later for the ashes of a second person, represented by the seated figure.

A Chamber-Tomb at Porano.—In this place, near Orvieto, A. MINTO reports the discovery, in the district called Settecaminì of a chamber-tomb. It had been damaged in ancient times, but it was possible to recover, and to some extent restore, the form of the dromos and the sepulchral chamber. Among the finds were a bronze mirror, 0.18 m. in diameter, with a tang for attaching the handle. It has no border, but before a temple-front four figures appear, perhaps Helen and Paris between the two Dioscuri. Other finds in bronze were a large *patera* and a number of oinochoai of various sizes. One of the latter, 0.23 m. in height, has a handle of unusual design, with a mask of Silenus at the upper end, and at the lower end a badly corroded mask which may be Silenus, or perhaps Achelôus. A good many vases in bucchero ware and in light yellow terracotta were found; also some painted Etruscan vases, including a large *krater* and two *stamnoi*. (*Not. Scav.* viii, pp. 88-90.)

A Coin Hoard at Caligari.—In the commune of Riola at Is Benas ("The Springs") a hoard of large imperial bronze coins was found by two peasants. The money was scattered about the ground and there was no sign of a container or of ancient walls. The authorities recovered 142 pieces, many of which are in bad condition, with

representations of emperors from Trajan to Galienus. The greater number are coins of Alexander Severus (17) and his successors. There are no very rare specimens, but several present interesting features. (A. TARAMELLI, *Not. Scav.* viii, pp. 150-155.)

A Necropolis at Gela.—In *Not. Scav.* viii, pp. 137-149, P. ORSI gives an account of a short campaign spent in the exploration of a necropolis in the district called Spinasantà, on a hill six miles from Gela. Some tombs had escaped violators and yielded interesting vases: a large amphora, 0.40 m. high, with a rope-form handle of an unusual kind; a large *lekythos*, 0.31 m. high, showing a female winged figure in a black chiton reaching to the feet (a funerary *Genius*), advancing with open arms towards a black *hydria*, to complete a sacrifice. It is an Attic work of the fifth century B.C. and has the last five letters of a name, probably a 'Lieblingsname'; a large bronze *hydria*, 0.42 m. high, the vertical handle of which is attached by an *appliqué* in the form of a female mask of oriental appearance characteristic of the so-called *ars Daedolica*. A fine bronze strigil was transfixed by an iron nail, to make it useless, a frequent practice in funerary offerings. The writer also calls attention to a cup of Nearchos from Gela, presented to the Museum at Syracuse in December, 1924.

Inscriptions from Castel di Sangro (Aufidena).—In *Not. Scav.* viii, pp. 128-129, V. BALZANO publishes two inscriptions discovered in 1931. One of these, found near the Ponte delle Grazie in the district Orti del Principe, is Oscan, and is given by Balzano in the following form: Pettiud E. M(eddix) T(uticus)=omnino approbavit=Numnius (or Nummius) aedificavit. The other inscription, from the district Piano della Zittola, is in Latin and reads: C. Acellius Clemens portic(um) et saepta pro ludis Augustalib(us) faciend(um) curavit. These games were celebrated in commemoration of the return of Augustus to Rome in 15 B.C., and of his birthday.

Reggio.—In *Not. Scav.* viii, pp. 130-136, E. GALLI reports the discovery of an archaic head from Sybaris and a terracotta figurine from Thurii. The former, about 0.16 m. in height, is very badly damaged and shows traces of fire; it is in provincial Greek style and is perhaps to be assigned to the second half of the sixth century B.C. It is of mediocre workmanship, but interesting because of its provenance. The figurine, 0.10 m. high, is well preserved and is assigned to

the fourth century B.C. It is a caricature of a *meretrix Sybaritana* in the form of an old woman with the face of a comic mask. It was found at La Forgia on the right of the river Cratus, not far from its mouth.

Excavations at Susa (Segusio).—In *Not. Scav.* viii, pp. 3-13, P. BAROCELLI reports the results of excavations in an area southwest of the city, near the convent of San Francisco. Here a corridor and a chamber had been discovered in previous explorations. It was found that they formed part of a Roman amphitheatre, with two *maeniana*, one of which was supported by the corridor, while the other seems to have been of wood. In the corridor were several large rooms. The age of the building is difficult to determine, but the masonry suggests the end of the second century of the Empire, or the beginning of the third.

On the Collina del Castello, regarded as the site of the pre-Roman town, remains of Roman buildings came to light, apparently private houses, of an elegance of decoration hardly to be expected in that locality. In the neighborhood of the hill some Roman tombs of the early Empire and a fragmentary inscription were found.

Excavations in Liguria.—In *Not. Scav.* viii, pp. 14-28, P. BAROCELLI reports various discoveries along the via Julia Augusta in Liguria: at Ventimiglia, the site of Roman Albintimilium, another stretch of the Roman road found in 1916, and fragmentary inscriptions, including a brick-stamp of the *gens Lucheia*, perhaps the same as the *Luceia* mentioned in various Cisalpine inscriptions; at San Remo, on the western side of the city, remains of a *piscina* and other Roman constructions; at Bussana the remains of a Roman villa, probably a *villa rustica*; at Santo Stefano Riva the remains of a Roman bridge over the Rio della Torre.

A Table-Support from Ciciliano.—In *Not. Scav.* viii, pp. 126-128, R. PARIBENI publishes a table-support found in the district of S. Giovanni in the course of agricultural work. On the sides are two winged female figures, on one face a broad palmette of elegant design, but of rather inferior workmanship, on the other the inscription: P. Plautio M. F. Ani(ensi) Pulchro, patrono benemerenti, Idmo I(ibertus). Plautius was a member of the family to which the well-known tomb near Tivoli belonged, a consul and *triumphator*, quaestor of Tiberius in 31 A.D. Idmo is now as the name of an actual person; it is found in poetry as the name of one of the Argonauts and

elsewhere. Since the name implies skill, Paribeni conjectures that the table and the support were the work, as well as the gift, of Idmo.

An Inscription from Grottaferrata.—In *Not. Scav.* viii, pp. 117-119, R. PARIBENI publishes an inscription from the right side of the church of Badia di Grottaferrata. The inscription is cut on what was once a slab of marble 0.72 by 0.34 m. In it eight large circular holes were cut and it was used as a window of the church; in one of the holes was a thick disc of greenish glass. The inscription, which of course is in great part destroyed, consisted of a series of moral *sententiae*, of which a specimen is: Fortunatus modestus, infortunatus fortis esto.

A Chamber-Tomb at Tarquinia.—In *Not. Scav.* viii, pp. 100-116, G. CULTRERA gives an account of the investigation of one of the great mounds of the "Doganaccia" in the extensive necropolis on the right of the road leading to Viterbo. Within it was found a chamber-tomb with a dromos drained by a canal of unusual form. The tomb had been pillaged and little remains of what must have been rich funerary offerings. Very few bronze articles were found, but numerous fragments of pottery. The foot of an oinochoe bore the painted inscription: Rutile Hipocrates.

A Copy of a City Gate in Capua.—A diminutive relief of a double arched and two storied city gate, on a single stone built into the wall of a palace in Capua, is published, apparently for the first time, by E. JASTROW in *Arch. Anz.* 1932, pt. 1/2, (cols. 21-38; 4 figs.). The relief occupies the entire exposed front of a block of travertine 1.25 m. in width and .95 m. high. The architecture represented may be called Italian Hellenistic, and most of its features are found in real buildings of the kind, at Samothrace, Ephesus, Aosta, Nice, Aix, S. Rémy, Verona, Cordova, etc.

The Work of the "Società Magna Grecia" on Classical and Byzantine Terrain.—In *R. Arch.* xxxv, 1932, pp. 185-196, E. STRONG gives a brief report of the activities of the Società Magna Grecia in the excavation in Southern Italy and Sicily during the past ten years, notably at Elea, Hipponium, Punta d'Alice, Metapontum, Tarentum, Himera, Leontini, Agrigentum, and the Sicilian necropolis of S. Angelo Muxaro. Besides these excavations on classical sites the Society has furthered excavation on prehistoric sites, especially at Serra d'Alto, Murgia Timone, and on the promontory of Monte Gargano. Attention has

been devoted to Byzantine studies in southern Italy, and Mrs. Strong, after citing the earlier work of French scholars in the field, calls attention to the rapid deterioration of the paintings and to the publication of a corpus of them which has been undertaken by the Society.

The Antiquities of Christina of Sweden at Rome.—In *R. Arch.* xxxv, 1932, pp. 254-267, F. BOYER publishes a manuscript of the *Archives Nationales* which gives an inventory, apparently prepared while Christina was still alive, of her collection of ancient statues, busts, and heads, 122 items in all. The queen seems to have taken some pieces with her from Sweden to Rome. Others she purchased, acquired as gifts, or obtained by her own excavations. After her death these objects were successively in the possession of Cardinal Azzolino, the Marquis Pompeo Azzolino, the dukes of Bracciano, and Philip V of Spain, who purchased the collection in 1724. Boyer gives a concordance between the statues designated in the inventory and Ricard's *Marbres Antiques du Musée du Prado à Madrid*.

Celebrated Faces of Unknown Personages.—In *R. Arch.* xxxvi, 1932, pp. 44-76 (25 figs.), FREDERIK POULSEN discusses a group of heads in the Glyptothek Ny Carlsberg which bear the features of Romans who are unknown. The same people, however, are represented elsewhere and evidently were people of considerable consequence. Poulsen demonstrates most convincingly that two heads (Nos. 655 and 599) are those of members of the family of the Pisos; another head (No. 658) belongs to the time of Hadrian and is probably that of a member of a senatorial family. The head of a woman (No. 694) is apparently that of Domitia Lucilla, the mother of Marcus Aurelius, and the head of a man (No. 774) is perhaps that of Constantius Chlorus.

A Disputed Passage of Claudius' Letter to the Alexandrians.—In *R. Arch.* xxxv, 1932, pp. 268-281, H. JANNE would see in the letter of Claudius the earliest document alluding to Christianity, thereby sustaining the proposal of S. Reinach. Janne indicates an apparent relationship between lines 96-100 of the letter, *Acts* XXIV, 5, and Justin, *Dial. with Tryphon*, 108. It seems that in 40 A.D. the Christians sent emissaries to spread the faith throughout the world, that in 41 the conservative Jews of Jerusalem became alarmed and sent envoys to the *Diaspora* to combat the Christian propaganda, and that grave disturbances ensued. Claudius seems to have tried to

prevent further disturbances by forbidding the movement of Jews of Egypt and Syria.

The Topography of the Bucolics of Virgil.—In *R. Arch.* xxxv, 1932, pp. 230-253, L. HERRMANN suggests the following settings for the *Bucolics* of Virgil: I at Tusculum; II and V at Tibur; IV, VIII, and X at the Palatine, the Arcadia of Evander; III and VII near the mouth of the Mincio; IX on the *Via Gallica*, halfway between Verona and Brescia; VI at a grotto in Naples. He would identify the Bianor whose tomb is mentioned in IX with the epigrammatist of that name. The topography suggested would agree with the identification of the persons in the *Bucolics* as proposed in Herrmann's *Les Masques et les Visages dans les Bucoliques de Virgile* (1930).

Originality of Latin Poetry.—In *Anuarul de Institutul de Studii Clasice al Universității "Regele Ferdinand I"* in Cluj (Annual of the Institute of Classical Studies at the University of King Ferdinand I at Cluj), Vol. I, pp. 3/32, V. BOGREA defends the originality of Latin poetry by pointing out the significance of the early poets before the introduction of Greek influence, the satire and the elegy as works developed chiefly under Latin influence. He points out that the Romans translated and adapted more than they blindly imitated.

Identifications of Persons in the Tristes.—*Ibid.*, pp. 33-48, ST. BEZDECHI considers the identification of certain persons mentioned in the *Tristes* of Ovid. Thus he decides with Lorentz that Brutus was the editor of the collection and he makes several other identifications.

Catullus LXIV.—*Ibid.*, pp. 49-53, TEODOR A. NAUM believes that many of the difficulties in Poem LXIV of Catullus can be explained by conceding independent poetic inspiration to the poet and that we do not need to look for models and translations so carefully as many scholars have done.

BULGARIA

The Attic Grave Stele in Bulgaria.—The grave stele of Anaxandros in the museum at Sofia, the upper part of which from the knees up was found in the harbor of Sozopolis (Apollonia on the Black Sea) in 1895, has been completed by the discovery of the lower part in the spring of 1930. The stele is of the same tall, narrow archaic-Greek type as that of Alxenor in Athens, and represents in profile a mature man leaning on a staff and looking down at his dog, whom he is tempting with the

foot of some small animal held in his right hand. The work is lifelike and expressive. The relief surface measures 1.82 m. in height and the whole stone 2.40 m. It lacks the acroterion which was attached by dowels, but includes a roughly finished lower portion about .18 m. deep, which was buried in the ground. (S. VILKOV, *Arch. Anz.* 1932, pt. 1/2, cols. 97-100; fig.)

RUMANIA

Prehistoric Graves at Valea lui Mihai.—In the *Annual of the Institute of Classical Studies at the University of King Ferdinand I at Cluj*, Vol. I, pp. 73-80, Dr. M. ROSKA describes some prehistoric graves discovered at Valea lui Mihai. The bodies have been burned and placed in subterranean receptacles in the graves. Among articles found are a mass of obsidian with some chips as if manufacture was going on at this spot, pieces of pottery, usually *Stichverzerte Keramik*. The most of the remains are probably eneolithic, although some are conservative neolithic finds.

Eneolithic Cemetery.—In the *Annual of the Institute of Classical Studies at the University of King Ferdinand I at Cluj*, Vol. I, pp. 89-101, ST. KOVÁCS discusses an eneolithic cemetery at Decia Mureșului. Fifteen graves were found, and in several skeletons the skulls had been trepanned and there were signs of ochre around the bones. There were very few signs of metal in the graves and the pottery were quite ordinary for the locality.

Religious Syncretism.—In the *Annual of the Institute of Classical Studies at the University of King Ferdinand I at Cluj*, Vol. I, pp. 81-88, C. DAICOVICIU publishes a collection of inscriptions on altars found at Sarmizegetusa in Dacia that illustrate religious syncretism. Thus we have an altar to Invicto Deo Serapidi, another where Sol Invictus (Mithras) is included in a list of Roman deities, Θεῶν Ὑψίστου ἐπηκόω, Fortunae Daciarum, etc.

Inscriptions from Mera.—*Ibid.*, pp. 109-111, MIH. I. MACREA publishes two Latin inscriptions from Mera, County of Cluj. The second contains when restored the rather unusual epithets of Diana Vera et Bona, perhaps as a result of religious syncretism.

Dacian Monuments.—In the *Annual of the Institute of Classical Studies at the University of King Ferdinand I at Cluj*, Vol. I, pp. 112-126, C. DAICOVICIU studies some unpublished monuments of Dacia. The first of these is a Dacian

funeral monument ending in a pyramid and somewhat similar to the *Pfeilergrabmäler* of Belgium and Germany. The differences in the Dacian specimens are probably due to direct influence from Asia Minor and the monuments themselves seem to be the work of a collegium of *lapidarii*. He also studies a long series of Dacian monuments of Liber and Libera. In this case beside Liber is a Silenus and Liber has many of the elements of Dionysos. He also publishes a funeral monument from Apulum in which there is a peacock in the upper part of the design as a symbol of death. This is a result of oriental influence.

Coins at Cluj.—*Ibid.*, pp. 127-139, MIH. I. MACREA studies a collection of coins at Cluj and several coins that have been also found at places in Dacia.

Bridge of Trajan at Turnu-Severin.—*Ibid.*, pp. 140-177, A. DECEI makes a very serious and complete study of the bridge erected by Trajan over the Danube at Turnu-Severin. He brings together in this article the history of the events that decided Trajan to build the bridge, the career of the architect Apollodorus of Damascus, the data that we have on the bridge from the Column of Trajan and various coins. He studies also the questions of the changes made in the camps and the bridge by Constantine the Great and Justinian and summarizes the units that we know were garrisoned in and around the bridge. The bridge seems to have been built along the general lines favored by Vitruvius, but unfortunately we have not the detailed account given by Apollodorus. There is no agreement as to the destruction of the bridge, but the author, on the basis of examinations made in 1909, believes that fire had much to do with its disappearance.

JUGOSLAVIA

A New Statuette of the Athena Parthenos.—A marble statuette of the Athena Parthenos, which was found in November, 1931, a few miles from Monastir (Heraclia Lyncestis) in the extreme southern part of Yugoslavia, is published and discussed by H. SCHRADER in *Arch. Anz.* 1932, pt. 1/2 (cols. 89-97; 3 figs.). The figure, now in private possession but destined for the Belgrade Museum, is between the Varvakion and the Lenormant statuette in size, having a ratio of 1:20 to the original. The head is preserved, but the lower right arm with its attribute is missing. The work is carefully done, by a competent hand,

and preserves to a remarkable degree the monumental character of the statue, in particular the even balance of parts about a clearly fixed central axis, as well as many details.

AUSTRIA

The Willendorf Finds.—In *Mit. Anth. Ges. Wien*, Vol. LXII, No. VI, 1932, pp. 349-360 (with 1 text fig. and 5 plates), RICHARD PITTIONI writes about the hitherto unpublished stone industry from the well-known Palaeolithic station in Austria, famous for its "Venus."

There are two sites at Willendorf, both located in brick yards. The artifacts were found in both places, but there is no explanation of the circumstances of their discovery. Their stratigraphic position is not known. Hence, the author restricts his article to that material which is now placed in the Prehistoric Institute of the Viennese University.

The stone objects are predominantly of the "Klingentechnik" (blade) variety. There are large flakes, cutting blades, gravers, notched points, scrapers, borers and miscellaneous small pieces.

Typologically, this material represents the Late Aurignacian period, comparable in time sequence to phases 4 and 5 of the Western European system.

Two Bell Beakers from Northwest Pannonia.—In *Mit. Anth. Ges. Wien*, Vol. LXII, No. VI, 1932, pp. 367-370 (with 3 text figs.), FRIEDRICH HAUTMANN describes two chaliciform vessels from East Austria. Both represent the common Central European type. Although only undocumented chance finds, the author takes them as important marks of the geographic route from the Bohemio-Moravian Bell Beaker area through Austria to the Southeast as far as central Hungary and the Tissa River valley.

GERMANY

Exhibition of Jewelry at Berlin.—In the exhibition of jewelry of many periods recently held at the Old Museum many ancient pieces of great interest were on view, among them earrings of the fourth century, filigree bracelets, silver boxes of Scythian provenience, a headdress of the third century from Abdera, gay with ivy enamelled in colors and set with garnets. Especially interesting is the hoard from Pedescia in the Sabine Hills, consisting of jewels owned by a family of the time of Augustus. The Byzantine and

Mediaeval display includes lunulae, gold necklaces, pendants and other pieces of great magnificence. (*Illustrated London News*, Dec. 3, 1932, pp. 884-5.)

SPAIN

Plaques of the Cult of Sabazios coming from Ampurias.—In *R. Arch.* xxxvi, 1932, pp. 35-43, ADRIEN BRUHL gives an interpretation of two bronze plaques found in a grave at Ampurias in Spain. One represents Sabazios with the essential attributes of his cult and accompanied by Dionysos and Hermes. Stars indicate the celestial world. A woman in a grotto before a flame is probably a priestess, and another woman holding a babe is pictured in a second grotto. The second plaque on which one of the Dioscuri appears is probably not unrelated to the first. Bruhl points out that this is the first evidence of the cult of Sabazios in Spain.

NORWAY

Stone-Age Art of Scandinavia.—At Vingen, north of Bergen, in Western Norway, the Keeper of Antiquities in the Museum at Bergen has discovered and made drawings of some eight hundred engravings in the rock walls along the fjord and the river. They date from about 2000 B.C. Most of them represent red deer, usually singly, but occasionally in groups as large as 135; human figures, crudely rendered, also appear. Some objects not seen elsewhere apparently represent contrivances for catching or killing the animals. (J. BÖE in *The Illustrated London News*, Dec. 17, 1932, pp. 986-7.)

GEORGIA

Archaeological Finds in Georgia in 1930.—In *Mit. Anth. Ges. Wien*, Vol. LXII, Nos. I and II, 1932, pp. 102-109 (with 18 figs. in text), SERGE MAKALATHIA describes certain bronzes and ceramics discovered in the provinces of Kharthli, Gori, and Kakhéti. The material includes axes, daggers, swords, spear points, buckles, and tripod vessels, all made of bronze, and is assigned to the artistic Koban-Samtavro phase of the Caucasian Bronze Age, dated approximately to the thirteenth century B.C. Although a reference is made to five pottery pieces (all illustrated in the text), their cultural positions or dates are not given. Still, the article is welcome news of the promising archaeological activities in so important a region as Georgia.

EUROPE

GENERAL

On the Use of Ancient "Sieve-Vessels."—In *Mit. Anth. Ges. Wien*, Vol. LXII, No. III, 1932, pp. 217-222 (with 1 text illus.), WILLVONSEDER discusses the function of archaeological "sieve-vessels" in Europe. These are colander-like perforated ceramic or metal utensils which differ from the "true sieve" receptacles in one important aspect: they are not closed off with a bottom. While the true strainers are generally considered to have a purely kitchen-utilitarian purpose, the use of the "sieve-vessels" (multi-perforated, top-open covers) has been interpreted in widely differing ways. Both types are found in European archaeology from the Neolithic period upward through the scale of culture history.

Following Götze's classification of "sieve-vessels" (Ebert, *Reallexikon*, XII, p. 82, sec. 7), the author lists and describes a series of specimens from central and southeastern Europe. He then reviews briefly the explanations advanced for these vessels, which range from no recognition of any differences between the true sieve and the cover, to the conceptions of such functions as: cheesemaking receptacles, incense burners, pot-stands, honey-gathering vessels, lamps. The quite prevalent "lamp" idea was subscribed to by Wossinsky (in *Lengyel*, II, p. 12), who later changed his opinion and declared the "sieve-vessels" to be flame covers (*Tolnavármegye*, pl. XLVI).

The author accepts this and explains how the vessel functions in actual application as a protector to the flame which receives air through the perforations and may be fueled through the open top. He admits a possible secondary use of these vessels as incense burners, but rejects any other functions claimed for them. Existing evidence of a direct association of these flame protecting covers with fire hearths is well established.

THE UNITED STATES AND
ALASKA

The Archaeology of Environment in Eastern North America.—In *Am. Anth.*, Vol. 34, No. 4, October-December, 1932, pp. 610-622 (3 tables), P. B. SEARS discusses the relationship of extinct aboriginal cultures to post-glacial climatic conditions. He correlates the discontinuity in archaeological remains with the known fluctuations

in climate and offers a tentative chronology which appears to correspond with that of Northern Europe. An interesting example is given in the diffusion of the Hopewell culture (Mid-western mounds) eastward (where it was both preceded and followed by more primitive developments), which is correlated with the shifting of the corn optimum as the result of a recent warm, dry climate. The author has made good use of the pollen analysis method (qualitative determination of fossil pollen found in peat deposits and its floral reconstruction) and suggests the importance of checking deposits containing pollen which may have important bearing on the dating of the associated cultural remains.

Origin and Development of the Burial Mound.

—In *Am. Anth.*, Vol. 34, No. 2, April-June, 1932, pp. 286-295, E. F. GREENMAN discusses the interesting question regarding the origin of burial mounds in America. Considering three possibilities, namely, the objective, the subjective, and the force of interplay of these two, as the major explanations, the writer expands on each one of these and concludes that burying in mounds is to be attributed to the following circumstances: (1) high regard for the sanctity of the grave, (2) protection from human or animal vandalism (prompted by 1), (3) conscious conception or accidental suggestion of the mound, (4) acceptance of the mound as a solution to avoid difficult digging through the hardpan (the impervious layer immediately below topsoil).

The so-called Adena type of mounds, characterized by large tombs located under the floor level of tumuli, exemplify a transitional development between plain pit graves and mound burials.

Once established as a culture trait, the practice of burying in mounds continued through the operation of factors additional to the original adoption of the custom.

The Algonkin Sequence in New York.—In *Am.*

Anth., Vol. 34, No. 3, July-September, 1932, pp. 406-414 (9 plates), W. A. RITCHIE describes the material culture and, in so far as possible, also the physical characteristics of the aborigines of the state of New York who fall within the so-called Algonkin Period. Following A. C. Parker's accepted triple classification, the author modifies the Second Period as being probably based on derivations from the Southeast, and considers the Third Period to be a local development from the Second with a strong admixture of Iroquoian traits.

The First Period (Archaic) is without pottery, polished celts, copper and worked shells. Characteristic implements include the faceted adze, celt scraper, cylindrical pestle, shallow mortar and muller, hammerstones, notched sinkers, straight, stemmed and notched arrow, javelin, and spear heads, knife blades, variety of bone and antler implements, beaver tooth knives and certain problematic forms. While skeletal remains are insufficient to warrant definite conclusions, the longheaded type has been ascertained. The geographic distribution of this type of culture spreads from lower Ontario through northern Ohio into eastern Pennsylvania and throughout the course of the Susquehanna, as well as lower New England. The writer suspects that it is to be found even further southward than Pennsylvania.

The Second Period material reveals marked influences from the Southeast. It is distinct from the preceding type partially in superimposed stratigraphy and above all, in radical differences in individual traits, both cultural and physical. Characteristic are grooved axes, gorgets, Cannerstones, sinew stones, grooved mauls, choppers, marine shell beads, and pottery. Pointed-bottomed vessels, made of poorly washed clays, embellished with twig and textile impressions and punctate design, are typical. Crude ceramic pipes, steatite, hematite, some native copper, notched and barbed arrow-, javelin-, and spear-points, and polished slates are also present. The associated crania are brachycephalic.

Many of these elements show affinities with the South Atlantic (Muskogean) and the Mississippi-Ohio (Mound Builders) areas. The writer believes that the region about Chesapeake bay was the center of amalgamation of the Archaic Algonkin culture type with the southeastern pattern and that a reflux brought it from there northward. The historic survival of the Coastal Algonkin tribes indicates that the ethnic stock remained the same. In addition to New York State, the Second Period Algonkin distribution extended to coastal New England and as far north as Nova Scotia.

The advance of the Iroquois northward occasioned the development recognized as the Third Algonkin Period. Marked changes in ceramics, lithic industry, and in racial aspects document this process. In pottery, the straight line design and the herringbone pattern predominated. The rounded-bottom vessel, an Iroquoian characteristic, was adopted. The most distinguishable stone

trait, the triangular arrowhead, also originally an Iroquois product, became typical. Although stemmed points are relatively rare, the general run of stone and bone implements is similar to those of the Second Period. The elbow type of clay pipe now reached its highest development and the bone harpoon with a single or double row of barbs became an important artifact. On the other hand, such traits as grooved axes, gouges, plummetts, polished slates, ocean shell beads, and copper disappeared.

The Algonkin culture was gradually submerged by the dominance of the Iroquois.

An Indian Mound in West Virginia.—In *Mus. J.* (Univ. of Penna.), Vol. XXI, Nos. 3-4, September-December, 1930, pp. 133-187, page plates I-XXV, CHARLES BACHE and LINTON SATTERTHWAITE, JR. report the excavation of an Indian mound at Beech Bottom, West Virginia. The article, in its first part, consists in greatly detailed description, constantly illuminated by plans in section and elevation telling the story of the excavation which took place from July 3 to August 4, 1930. The mound, broadly speaking a cone, averages 22 m. in diameter at the base, and its greatest height from the general surrounding ground level about 4 m. The study seems to indicate that the mound was erected for a single burial in times before the coming of the Europeans. The body, ornamented all over with copper and shell beads, and probably covered with bark, lay in an oval hole on its back, hands at sides, legs somewhat bowed, with one ankle above the other. Over this was a layer of yellow sand; and then the grave was filled with dark earth. Hematite celts, broken blades, broken tubes and broken animal bones were thrown on or in this dark earth. A third layer of dark earth was then spread over the grave and the oval ridge of sand around it, with its objects. The outer portions of this dark layer merged beyond the sand with a layer of dark material (from the Ohio River bottom?) laid down before the digging of the grave, forming a kind of dark disk. Then a large ring of yellow surface soil was deposited around the whole, gradually rising until it formed a kind of crater. As it encroached over the disk there was a mixture made of the dark material giving a pebbled effect in the cross section. Finally, instead of completely closing, the "crater" enclosed a mass of dark soil continuous with the dark covering of the sand in a kind of funnel-shaped core. In filling in, the builders deposited

caches of blades, single blades, celts, slate gorget and pendant, miscellaneous natural stone objects. Much red ochre was scattered about, in lumps or smeared on blades. River mussel shells, and particularly broken straight tubes which the authors believe to have been tobacco pipes, were common. These "pipes" contained in one or two instances a clay pellet which could not fall through the small orifice at one end (like a hole through a node of bamboo). Chemical analysis of the charred residue in these tubes supports the theory that they were used for smoking.

This culture seems, by process of elimination, to be Adena or a local variant of it. The peripheral ring and the evidently ceremonial use of dark earth seem to be unique in the eastern part of the Mississippi area. Its closest affinities are probably to be sought in the little known Kanawha Valley region of West Virginia.

The plates illustrating the finds are indispensable to any proper understanding of the work, and they are most excellently produced and reproduced.

Excavations in the Guadalupe Mountains.—In *Mus. J.* (Univ. of Penna.), Vol. XXI, Nos. 3-4, September-December, 1930, pp. 198-202, page plates Nos. XXVI-XXXVII, EDGAR B. HOWARD reports archaeological research in the Guadalupe Mountains (in Eddy County, New Mexico, and Culbertson County, Texas). A number of caves were investigated; three were partially excavated, only one of which had been practically undisturbed before the expedition.

The material recovered consists of baskets, fragments of baskets, several types of sandals (all these of yucca leaves), pieces of twine-woven bags and matting, a few spear and arrow foreshafts, bone awls, corn cobs, wooden objects such as wedges, sherds of undecorated gray-black pottery, and a number of animal bones notably of the Pleistocene bison, horse, and a rather rare antelope, *tetrameryx shuleri*, besides the bones of a large stork-like bird. A few human bones were also recovered. Certain of this material resembles very closely specimens of Basket-Maker work from other parts of the S.W.,—notably the twined woven bag and the spear foreshafts; other objects are different. For the present it seems unwise to attempt any definite assignment of this culture to a place in the general picture.

The plates are excellent in the clarity of their photography and the exactness with which they

present the appearance of the cave localities and the more significant objects unearthed.

Work in Caves of the Guadalupe Mountains of New Mexico was continued last spring under the joint auspices of the University Museum and the Academy of Natural Sciences, Philadelphia, with Mr. Edgar B. Howard, of the Museum in charge. A number of new caves were explored, and these yielded some skeletal material, sandals, grooved sticks, cordage, hair rope, and so forth. The principal work, however, was carried on in a cave that had been the site of investigations in the two preceding seasons. The excavation of this particular cave was completed this year by Mr. Howard with the able help of Mr. R. M. Burnet of Carlsbad. Two more Basket-Maker burials were uncovered, in one of which was a broken atlatl. A number of deep hearths were encountered at depths down to nearly nine feet, and in some of these were buried animal bones. Bones of the musk-ox, bison, horse, and several species of small mammal, as well as bones of the California condor were also found this year. A site, southeast of Clovis, New Mexico, which was apparently the bed of an old lake, yielded several broken Folsom points, and by going through local collections previously made at or near this place, a total of twenty-five points were found, some as beautifully chipped as the type specimens. The site offers interesting possibilities and the Museum expects to follow up this opportunity at the earliest possible moment. (*University Museum Bulletin*, December, 1932.)

The Age of Lead Glaze Decorated Pottery in the Southwest.—In *Am. Anth.*, Vol. 34, No. 3, July-September, 1932, pp. 418-425 (1 text fig.), E. W. HAURY discusses the important and interesting questions of the time status and the time criteria of lead glaze technique in the Southwest. This refers to glaze painting, not to glazing of entire walls of vessels, the distinction being very important in relation to the question of origin. The writer shows conclusively that lead glaze painting in the Southwest is datable to a period anterior to the arrival of the Spaniards. With the aid of the tree ring dating method, its presence may be dated as early as 1290 (over two centuries before Hispanic contacts). The chronological significance of lead glaze painting lies in its relatively short existence. It defines a fairly definite period in the history of the Pueblo ceramics and when found outside of its original area it indicates definite contacts with regions in which it was so prominent.

Excavations in Alaska.—The third season of archaeological investigations in southwestern Alaska, conducted by Frederica de Laguna, of the University Museum, Philadelphia, was spent chiefly at one site in Kachemak Bay, Cook Inlet. At this place are remains of five occupations, from the modern Athabaskan Indian village, inhabited only fifty years ago, to the lowest of four prehistoric Eskimo deposits, now all buried under beach gravel. The land has sunk about 15 feet since the first habitation. The archaeological material shows a development of the Kachemak Bay culture through three or four stages. Although this culture was basically Eskimo, and is closely related to that of the Pacific Eskimo and Aleuts when first discovered, it contains a rich mixture of Indian elements, especially in the third or final stage. These seem to link the Cook Inlet Eskimo with the prehistoric Indians of British Columbia. This third stage in Kachemak Bay also seems to be analogous to that of the Punuk phase found by Collins on St. Lawrence Island. Apparently the basis of the Kachemak Bay culture was a rather generalized Eskimo culture, in which a number of types known from the Thule culture of Canada played an important part. This supports Mathiasen's thesis that a Thule, or we should probably say, a Thule-like culture was the basis of all the Alaskan phases. Thus, the harpoon heads of the first period in Kachemak Bay are all of the simplest Thule type, and in none of the stages do the elaborate Old Bering Sea, Punuk, or Birnirk forms appear. A great many of the Kachemak Bay types belong to all the North Pacific region from Neolithic Japan on the one hand to southern British Columbia, or even further south, on the other.

The chief differences between the three stages of culture are in the stone technique, which shows a transition from chipping to polishing and sawing. Grooved and notched stones also show a development.

To the lower part of the third or last stage of the Kachemak Bay culture belong the stone lamps with a human figure in the bowl, as was proved by the finding of such a lamp *in situ*. This discovery supports J. Alden Mason's theory of an Eskimo origin for these lamps. The style of the decoration, however, is closely paralleled by that of the stone vessels with human figures from southern British Columbia. It seems likely that the plain knobs found in Thule culture lamps and

on archaeological lamps from southwestern Alaska have been elaborated into the human figure under Indian influence from the south. A lamp with whales in the bowl is also known from Kachemak Bay.

The most interesting art of these Eskimo was painting on the walls of rock shelters and caves. The pictures in three such caves on lower Cook Inlet were traced. They are apparently made of hematite mixed with animal fat, and are all in silhouette. They depict men in umiaks and kayaks, bears or anthropomorphic figures, whales of several different types, seals or other sea mammals, some with bladder-darts in their sides, a swan, etc. Such paintings are also found on Kodiak Island, where the archaeological culture was very similar to that of Kachemak Bay. It is possible, to judge by reports of the natives, that these pictures were connected with hunting magic, and were, perhaps, made by the whale-killers. (See also *University Museum Bulletin*, December, 1932.)

CENTRAL AMERICA

Excavations at Piedras Negras, Guatemala.—The Eldridge R. Johnson Expedition of the University Museum, Philadelphia, continued its excavations for the second year at the site of the Maya "Old Empire" city of Piedras Negras in Guatemala. The personnel consisted of J. Alden Mason as field director, Linton Satterthwaite, Jr., as assistant director, Fred P. Parris as architect, Mary Butler, and David W. Amram, Jr. Dr. Mason and Mr. Satterthwaite superintended excavating gangs, Mr. Parris surveyed the site and drew up a map, and Miss Butler studied ceramics, stratigraphy, and art development.

One phase of the work concerned the exportation of the massive monuments. Stelae 13, 14, and 40, Lintel 12, and one leg of Altar 4, consigned according to the contract with the Guatemalan Government to Philadelphia, and Stelae 6, 15, 33, and 36, Lintel 4, and three legs of Altar 4, consigned to Guatemala, were transported to the end of the road where they await proper conditions to be brought down the Usumacinta River. Stela 12, taken over the road in 1931, is now erected in the University Museum, as are Lintel 3, brought to Philadelphia in 1931, and Throne 1, brought to the Museum this year.

Excavations were conducted in the three principal groups of the city: the West, East, and South Groups. In the West Group the great modified hill known as the Acropolis was carefully investi-

gated, though not completely excavated, and afforded important information on Maya architecture and architectural development. In this region a burial vault was found in which were remains of several persons, one of them obviously of high rank. This was surrounded by ornaments of jade, shell, and bone (some of them with incised glyphs), a large hematite mosaic mirror and other objects of adornment.

In a prominent situation on the Acropolis, at the head of a monumental stairway and overlooking a court, were found the fragments of a throne which consists of a table supported by two legs and a rear screen which stood at the back of the table. The front edge of the table and the legs bear glyphs containing the date of erection. The screen seems to be a conventionalized serpent-face with the eyes cut through. In each eye is a free-standing human bust. This is the first throne recognized as such in the Maya area and is of the more importance inasmuch as it indicates that the scene shown in Lintel 3, in which a similar throne is portrayed in use, represents an actual ceremony at Piedras Negras. The throne, however, bears a date twenty-five years later than the lintel.

Pyramids K-5 and O-13, formerly termed structures 42 and 27 respectively, the summit temples of which were cleared in 1931, were deeply excavated, revealing in both cases earlier structures which had been buried by later accretions. In the former instance, two buried structures were found at successively lower levels, and another may underlie these. The lowest of these structures is of especial interest inasmuch as it consists of one of the widest rooms known in the Early Maya region, five meters in width, and could have been covered only by a roof of timber.

In the South Group the ball-court was completely excavated, giving for the first time a detailed plan of one of these interesting structures, which until recently were supposed to be missing in the Early Maya region. One large pyramid in the South Group and one smaller mound in this group and one in the East Group were superficially cleared and studied.

Another important discovery was that of Lintel 12, which bears the earliest date so far discovered at this city: 9.4.0.0.0, A.D. 514, according to the Goodman-Thompson correlation. This lintel had been broken up and re-used in the masonry of temple O-13, the relief decoration completely covered by a coating of stucco.

Discoveries in Guatemala.—The continuity of Maya religious ritual is striking: on obsidian flakes dating between 185 and 609 A.D. is engraved the "Long-Nosed God," the supreme deity as lord of earth, rain, and fertility, and in the three codices which date just before the Spanish conquest appears again the same god in nearly identical dress, a survival of over a thousand years. An interesting piece of sculpture at Santa Lucia shows the snake-god holding two human hearts and about to accept another from a priest who has a sacrificial knife in his right hand. A second priest brings part of a thigh-bone and a small child as offerings, and birds of prey feeding on human heads complete the scene. A burial in a mound in this region, perhaps of one of the priests, contained two large superimposed urns, the upper part of a femur separated from the lower, a horseshoe-shaped stone yoke, a sculptured plaque showing a bird of prey with its beak in the eye-socket of a human skull, an obsidian knife, a string of jade beads, and other objects. Nearby were found fragments of pottery censers which are thought to have been burned at the ceremony and then intentionally broken. Double seated female figurines and other figurines which show some indication of the cause of the subject's death, such as a swollen abdomen or cheek, were also found. (THOMAS GANN, in *The Illustrated London News*, Dec. 24, 1932, pp. 1006-7.)

Maya Dress and Decoration.—In *Mus. J.* (Univ. of Penna.), Vol. XXII, No. 2, June, 1931, pp. 154-183 (10 page plates), MARY BUTLER discusses Dress and Decoration of the Old Maya Empire. A study is made of the existing Maya Old Empire monuments in an attempt to furnish critical data for evaluating pottery and jades. The irreducible minimum of Maya garb was head-dress, neck ornament, and girdle or loin cloth. The plates illustrate these universal features, as well as the additional capes, skirts, sandals, leg and arm bands, that appear sporadically and which, together with varieties in the type of the universal costume, are characteristic of individual localities. Headdresses are mainly of two types: turban and mask. Neckwear varies from simple jadeite beads to cape-like feather creations. Nearly every sculptured figure carries some object of practical use or religious significance; in the article these are listed and described at some length. There then follows a series of paragraphs devoted each to a locality and giving a study of the costumes peculiar to each. An appendix,

tabulating types and localities; notes, giving provenance of the drawings in the plates; and a bibliography close the paper.

EARLY CHRISTIAN, BYZANTINE AND MEDIAEVAL

The Originality of Byzantine Art.—In *R. Arch.* xxxv, 1932, pp. 282-288, L. BRÉHIER gives a résumé of Guyer's *Vom Wesen der Byzantinischer Kunst* (1931) and discusses Guyer's theory of two distinct styles of Byzantine art, at Byzantium and regions under its influence, a breaking with ancient tradition, at Antioch a survival of Hellenistic art. Bréhier would see oriental influence in the art and architecture of Byzantium, and in the style of Antioch the classical survival due to the fact that Antioch was more than Byzantium a Hellenistic capital.

Polychromy and Sculpture in the First Romanesque Style.—In *Art Studies*, viii, 2, 1931, pp. 75-99 (32 figs.), J. PUIG I CADAFAELCH completes his study, "Decorative Forms of the First Romanesque Style," begun in *Art Studies*, iv, 1926, and continued in vi, 1928. Two particular subjects are dealt with here: polychromy, its origin and use and the methods employed in producing it; and sculpture for surface decoration, not for structural function. In discussing the latter the decorative elements are described and their origin accounted for. There are three main sources of the motives: the primitive, indigenous themes proceeding from a pre-Roman tradition; those diffused by manuscripts and stuffs of eastern origin; and those of patterns which, spread throughout the whole Carolingian Empire, were meant to imitate the sumptuous embroideries of the epoch. Figure sculpture was done in many schools and by various methods. In all of the First Romanesque Style one important fact stands out: sculpture occurred sporadically in primitive Romanesque churches and its development and geographic distribution did not coincide with those of architecture. At the conclusion of this article there is a summary of the earlier parts of the discussion and a brief consideration of the relation of the First Romanesque Style to the Second.

ASIA MINOR

Turkish Architecture in Southwestern Anatolia.—In *Art Studies*, viii, 1, 1930, pp. 89-165, and 2, 1931, pp. 173-212 (159 figs.), R. M. RIEFSTAHL presents a preliminary account of an expedition

to Smyrna, Manissa, Birgeh, Tireh, Aidin, Antalia, and Alaya. Part I contains descriptions of the monuments and of their decorative details with many illustrations; Part II consists chiefly of Turkish inscriptions from different places reproduced, described, translated into English and German, and commented upon by the author.

ITALY

Byzantine Survivals.—In *Art Studies*, viii, 2, 1931, pp. 215-221 (15 figs.), G. GEROLA assigns some twenty churches in and near Ravenna to what he calls the *deutero-byzantine* type—that is, late Byzantine style persisting into the Romanesque period. These churches have mostly been ascribed either to the earlier Byzantine or to the Neo-Byzantine period; Gerola, however, recognizes them as examples of this interesting survival style which is found in architecture only in Ravenna, though in painting it exists throughout Italy. The principal churches described are S. Michele in Acervoli presso S. Arcangelo, S. Salvatore in Calchi, S. Maria in Porto Fuori, S. Pietro Maggiore and S. Vittore, all at Ravenna. The article summarizes the main points discussed in detail in a larger study of the subject by the same author published in *Ricordi di Ravenna Medioevale, per il sesto centenario della morte di Dante*. Ravenna, 1921.

Mediaeval Painting at Verona.—In *Art Studies*, viii, 2, 1931, pp. 159-167 (25 figs.), E. S. VAYALÀ describes the artistic position of Verona in the *Dugento* as dependent upon two considerations: her nearness to the source of incoming Romanesque influence from the other side of the Alps and her relative nearness to Venice, center of the Byzantinizing movement. The pictures that remain from this period of mixed influences are fragmentary and mutilated so that it is impossible to reconstruct from them artistic personalities or even consecutive phases or movements. The material presented in this study, however, serves to exemplify the mixed character of the period. The principal monuments described are the frescoed grotto of S. Nazaro, the S. Zeno frescoes, especially the great picture in the Tower, frescoes from the Churches of S. Fermo and S. Giovanni in Fonte, and several detached fragments in the Museo Civico.

A New Group of Byzantine-Venetian Trecento Pictures.—In *Art Studies*, viii, 2, 1931, pp. 3-31 (29 figs.), V. LASAREFF, using a Crucifixion in the Stoclet Collection as a nucleus, builds up a group

of pictures with common style characteristics, which presumably come from the same workshop. Within this general group there seem to be subgroups based on individual peculiarities which suggest six different artists working under the same general tradition in the first half of the fourteenth century—a tradition whose outstanding characteristic is its retention of strong Byzantine influence and its freedom from Gothic. None of the pictures is dated, but as they are associated in style with the mosaics of the Baptistery of S. Marco, Venice, they may be given the date of the latter, 1342–1354. To complete the group, the mosaics in the chapel of S. Isidor in S. Marco must be added because of stylistic resemblances to the Baptistery mosaics. The remainder of this study is concerned with an attempt to determine the chronological sequence of the pictures on the basis of a careful stylistic analysis and to ascertain whether the artists making up this workshop were Greeks or their Italian pupils. A significant fact bearing on the latter question is the existence in Murano in the first half of the fourteenth century of a workshop of Greeks who had Italians as pupils and who turned out both icons and mosaics; their style was eclectic—a mixture of Byzantine and Italian elements. To this school undoubtedly belongs the above group of paintings and mosaics.

Two Crucifixes of the Campania in the Eleventh Century.—In *Dedalo*, Anno XII, Fasc. XII, 1932, pp. 925–932 (5 figs.), A. O. QUINTAVALLE describes two early Romanesque wooden crucifixes in Naples which represent the very technique described by Theophilus as combining the use of gesso and polychromy with sculpture. The figures in their present condition, therefore, are only the skeletons of the original forms. The earlier one, in S. Maria Maggiore, was probably made for this church and placed there in the eleventh century. In the heavy, slightly-modelled figure and the coarse features it shows a striving after massiveness and solidity which is foreign to the Byzantine tradition and which, with its faults and mannerisms, clearly points to a regional style. Other examples of this style exist in the carved wooden doors of S. Maria in Cellis at Carsoli, the four wooden shutters of S. Maria Maggiore at Alatri, and an ivory altar-front in the Duomo at Salerno. The second crucifix, in S. Giorgio Maggiore, is considerably later; the form of Christ is more attenuated and the modelling less rude, but it shows a style and technique simi-

lar to the others with the addition, however, of a finer spiritual feeling in the expression of the face.

Norman Sculpture in Sicily.—In *L'Arte*, xxxv, 1932, pp. 452–475 (14 figs.), L. BIAGI continues his study of the cloister of Monreale begun in *L'Arte*, xxxiv, 1931, taking up the sculpture of the earlier Norman period and tracing the influence which determined its character. Of primary importance in this period is the cathedral of Cefalù the sculptured capitals of which must antedate 1148 when the mosaics were finished, and must, therefore, represent the earliest original sculpture of the Norman period in Sicily. The chief elements of this style are Lombard Romanesque and Byzantine; the motives are Oriental monsters adapted from textiles to sculpture under restraining classical influence. The same style developed with a stronger Hellenistic character is found in the cloister of Monreale where some of the artists at work were probably educated in Greece. Toward the end of the twelfth century more frequent contacts with south Italy introduced certain mannerisms of style which mingled with further infiltrations of Lombard Romanesque and of French. At the same time some artists were still carving capitals in the Byzantine style. This mixture of influences gave Sicilian art in the Norman period a distinct character of its own.

RUMANIA

Gothic Weapons.—In the *Annual of the Institute of Classical Studies at the University of King Ferdinand I at Cluj*, Vol. I, pp. 69–72, Dr. M. ROSKA publishes two swords, a spur and some other objects found at Valea lui Mihai in the county of Salaj. These are apparently Gothic in style. The swords are somewhat shorter than the usual type and the tomb can be dated by a gold coin of Theodosius II (408–450).

SPAIN

A Sixth Century Fresco at Egara.—In *Bulleti dels Museus d'Art de Barcelona*, ii, 1932, 11, pp. 97–105 (6 figs.), J. P. I. CADAFALCH describes a partly ruined fresco in the apse of the cathedral of Egara (Terrassa) in Catalunya. The walls of the building belonged to a Visigothic bishopric probably built between 516 and 546 A.D. The building is interesting because it involves Roman methods of construction, while the fresco, both in iconography and decorative motives shows strong Near Eastern, probably Egyptian, influence. This

painting is the earliest example of West Christian painting outside Italy.

The Osma Beatus.—In *Art Studies*, viii, 2, 1931, pp. 103-156 (26 figs.), T. ROJO presents a full descriptive and critical study of one of the most interesting of the Beatus manuscripts, namely, that in the Cathedral of Osma, dated 1056. In addition to a description of the external features of the manuscript and a textual analysis, all the folios containing miniatures are described as well as the Mapa Mundi. Rojo gives as the provenance of the manuscript, the Monastery of Sta. Maria de Carracedo in the diocese of Astorga.

The Beatus Manuscripts.—In *Art Studies*, viii, 1, 1930, pp. 3-55 (6 pls., 18 figs., 6 of which are colored), Miss G. G. KING discusses the miniatures in the twenty-four important manuscripts of Beatus' *Commentaries on the Apocalypse* as expressive of the Spanish temper. There are several main groups distinguished of which the Valcavado is the earliest and most important. San Millan style is easily recognizable because of the use of certain definite details; the Burgensis group is headed by the Morgan manuscript. The copy of Beatus now at Gerona shows strong Eastern influence while that of Egas at Lisbon is Cistercian. Miss King, after a general description of the contents and history of the manuscripts, takes up each group and studies its stylistic characteristics and their probable sources. One interesting observation arising out of the study of the Beatus manuscripts is the evidence they furnish that Persian-Mesopotamian influence came into Spain by means of manuscripts earlier than any now extant, and that it kept recurring there at successive periods as is shown by the emphasis on color and on conventionalized design. A chronological descriptive list of all the known Beatus manuscripts concludes the article.

A Fragmentary Spanish Altarpiece of the Late Fourteenth Century.—In *Bulleti del Museu d'Art de Barcelona*, ii, 9, 1932, pp. 42-49 (8 figs.), A. DURAN I SANTPERE identifies two stone reliefs representing the Nativity and the Presentation of Christ in the Temple together with a statue of the Madonna, all in the Museum of Ciutadella, as parts of an altarpiece formerly in Santa Maria la Vella in Ager. The composition is poor and the technique crude, but the fragments are interesting as examples of the popular type of late fourteenth-century Spanish Gothic sculpture.

UPPER RHINE

Upper Rhenish Painting About 1300.—In the *Münch. Jahrb.* Bd. ix, 1932, Heft 1, pp. 17-48 (16 figs.), A. STANGE discusses late thirteenth and early fourteenth century painting of the upper Rhine district with special reference to Zurich and Constance as centers of distinct artistic styles. The two cities, according to Stange, are not to be contrasted in any artistic sense; it can only be said that as far as can be determined Constance showed greater originality. Unfortunately, there is no Zurich work of the fourth and fifth decade of the fourteenth century, so there is nothing to show the transitional step to mysticism there. To judge from Constance, however, it was a quick transition and in the upper Rhine territory did not take such a hold as in the lower—witness the solid monumentality of Conrad Witz a century later. Stange bases his study of upper Rhine painting in the thirteenth century upon three different manuscripts of the *Weltchronik* at Munich, St. Gall and (formerly) at Wernigerode, probably all painted in the vicinity of the Bodensee, and on the Weingartner *Liederhandschrift*, from the same district early in the fourteenth century, and the *Manassehandschrift* illuminated probably in Zurich. The latter seems to have been done by at least four hands, a master and his assistants. The differences between the master of the *Manassehandschrift* and the painter of the Weingartner *Liederhandschrift* are due not so much to localized style in Zurich and Constance respectively, as to differences in the artists themselves. The closeness of the two artistic centers is suggested by the unmistakable interinfluence between them, which is especially evident in some of the lesser artists who worked on the *Manassehandschrift*.

THE UNITED STATES

The Landevennec (Harkness) Gospels.—In *Art Studies*, viii, 2, 1931, pp. 225-286 (40 pls.), C. R. MOREY, E. K. RAND and C. H. KRAELING have collaborated in publishing the Gospels manuscript recently presented to the New York Public Library by Mr. E. S. Harkness. The results of their combined studies made respectively from the points of view of illumination, script and text analysis, have enabled them to date the manuscript in the second half of the ninth century and to establish its provenance in the monastery of Landevennec, in the diocese of Quimper, Brittany.

RENAISSANCE AND MODERN GENERAL

Some Aesthetic Values Recorded by the X-Ray.

—In *Art Studies*, viii, 2, 1931, pp. 61–71 (15 figs.), A. BURROUGHS demonstrates the value of X-ray shadowgraphs as guides to the study of style by showing up the fundamental handling of the underpainting. By a series of carefully selected figures, Burroughs indicates the scope of such a study: "Graded according to their obviousness, they show: first, the contrast between an original work and its copy; second, an original style and the imitation of it by a less-gifted artist; third, an original conception and an eclectic one; fourth, the comparison between artists who assimilated similar styles to a different degree; and finally, the contrast between paintings which have been considered similar by some critics but which differ fundamentally—in construction." The picture studied in connection with the last point—Leonardo's Virgin of the Rocks—shows by means of the X-ray shadowgraphs two distinct techniques, one of which seems to be that of Leonardo, the other that of Ambrogio da Predis.

Michaele da Firenze.—In *Dedalo*, Anno XII, 1932, Fasc. VII, pp. 542–562 (21 figs.), G. FIOCCO pieces together, from documents and monuments, the career of Michaele da Firenze, skillful and charming maker of terracotta reliefs. From the style of his panels of the Nativity and the Adoration of the Magi at Santa Anastasia at Verona, he was called at one time a Veronese under Tuscan influence; but the unquestionable similarity between the Nativity and a relief of the same subject by Arnolfo for the old façade of the Duomo at Florence, and between the Adoration of the Magi at Verona and one of Ghiberti's first doors for the Baptistery, establish him once for all as a Florentine. Still more striking is the similarity between a panel of the Nativity over a window formerly in the Istituto dei Buoni Fanciulli at Verona and the Nativity on the same doors of Ghiberti. It seems that Michaele in his early youth then (about 1403) was a pupil of Ghiberti; from 1430–31 he was at Arezzo, where he made the beautiful wall tomb decoration for Francesco Rozzelli. From 1433–38 he was at Verona, when the Santa Anastasia reliefs were modelled, and in 1441 he is recorded to have been in Ferrara and shortly afterward (1442) doubtless made the Altar delle Statuine at Modena. A similar work but much more elaborate was formerly in the Duomo

at Adria, of which only fragments remain now. Various smaller works, such as the Madonna in the Victoria and Albert Museum, are charming examples of his style. Michaele was one of the most immediate channels by which Florentine influence passed into the North to initiate the Renaissance there.

Jacopino del Conte.—In *L'Arte*, xxxv, 1932, pp. 332–337 (2 figs.), A. VENTURI clears up the attribution to Michelangelo of a Madonna and Angels in the National Gallery, by restoring it to Jacopino del Conte on the basis of its stylistic similarities to the Preaching of St. John in the Oratorio di S. Giovanni Decollato, at Rome.

The Art of Mathias Grünewald.—In *L'Arte*, xxxv, 1932, pp. 200–220 (5 figs.), G. NICCO discusses Grünewald's freedom from the German grotesque spirit of the 1400's, typified by Bosch and his followers, and his relation to Holbein to whom Grünewald owed among other things his use of blue-black backgrounds with strong light and shadow on the foreground figures. But the chief importance of Grünewald was that he was the first of the Germans to use light to combine his figures with the space in which they moved. Between the earliest known work of Grünewald—the Mocking of Christ, at Munich, 1503—and his masterpiece, the Isenheim Altarpiece, only five years intervened, but during that time the artist had changed from a painter of the 1400's to a cinquecentist.

Lorenzo Monaco, Miniaturist.—In *L'Arte*, xxxv, 1932, pp. 285–317 and 379–399 (36 figs.), A. M. CIARANFI deals with the codices decorated by Lorenzo Monaco and shows how each phase of his artistic development is represented in the miniatures. The earliest of these is a cardinal saint in an antiphonal in the Laurentian Library (Corale 5), dated 1394 and not previously attributed to Lorenzo. Next come a David and a St. Romualdo in Corale 8, Laurentian Library, in which Ciaranfi discovered the date 1395. These two chorals, if the attribution to Lorenzo is correct, are his earliest dated works and confirm the hypothesis that miniature painting was the earliest form of his artistic activity. Other codices discussed are: Corale 3, Laurentiana, dated 1409, containing a series of prophets by Lorenzo; H74 and Cod. E70, in the Bargello, the former dated by documentary and stylistic evidence 1412–13, the latter probably between 1420–1422. Further investigation may add still others to the already

considerable number of miniatures from Lorenzo's hand.

A Signed Work by Jacopo Bellini.—In *L'Arte*, xxxv, 1932, p. 148 (fig.), A. VENTURI adds a fourth picture to the three known signed works of the elder Bellini—a St. Jerome in a private collection which bears the date, 1443. Besides revealing the stylistic traits in color and lighting characteristic of Jacopo, this picture embodies a foretaste of the lyric spirit which later is apparent in the work of Giambellino.

Drawings by Benozzo.—In *L'Arte*, xxxv, 1932, pp. 91-103 (7 figs.), B. BERENSON identifies a drawing in the Uffizi representing Totila at the Council of Perugia as the work of Benozzo not of Bonfigli to whom it has been heretofore attributed on the basis of his painting of the same subject at Perugia. The firm structural lines, especially evident in the architecture, are characteristic of Benozzo. A drawing of the Presentation of the Virgin in the British Museum, formerly ascribed to Neri di Bicci, through its connection with a fresco of the same subject by Benozzo in the Chapel of the Visitation, at Santa Chiara, Castelfiorentino is given by Berenson to Benozzo. So also is a drawing, in Munich, representing the Expulsion of Joachim from the Temple connected with a fresco in the same chapel in Castelfiorentino. These three drawings are the only known ones done in charcoal by Benozzo or by any other pupil of Fra Angelico.

A Tintoretto Nativity.—In *L'Arte*, xxxv, 1932, p. 498 (fig.), L. VENTURI publishes a nativity from the Lathrop Collection which, when cleaned, proved to be a magnificent, signed Tintoretto. It probably dates from about 1560.

Some Florentine Quattrocento Pictures.—In a series of three articles in *Dedalo*, Anno XII, 1932, Fasc. VII, pp. 512-541, Fasc. IX, pp. 665-702, and Fasc. XI, pp. 819-853 (many figs.), B. BERENSON publishes a large number of "homeless" quattrocento pictures which, through private sale or some accident, have disappeared from the places where they were at one time visible. The works here dealt with, though centering round the greatest names of the period, are chiefly by minor artists and those who, as Berenson says, have not yet reached their majority in the sense of being recognized in terms of monetary value. There are, however, among these pictures some of such merit as to add considerably to the artistic reputation of the artists concerned.

There are two main groups of artists dealt with

here: first, those centering around Masolino, Fra Filippo, Masaccio, and Fra Angelico, namely Andrea di Giusto, Domenico di Michelino, and Francesco di Antonio Banchi, with a sub-group formed about Paolo Uccello represented by the so-called Master of the Carrand Altarpiece. Of this group the most important pictures whose whereabouts are unknown are a Madonna by Masolino, part of a dismembered polyptych formerly in S. Maria Maggiore, Florence, discovered by Toesca at Novoli near Florence and unfortunately lost sight of immediately afterward, and a Flagellation which, though worthy of the master, is probably by Andrea di Giusto. Two cassone panels of the Uccello school, interesting because of the strong Oriental influence in the decorative details especially the cufic inscriptions, have dropped out of sight, as have also one of the most charming and "filippesque" predella scenes of Fra Filippo and an Annunciation by him of somewhat inferior quality. The former of these two disappeared at the Aynard sale.

The group dealt with in the second and third articles of the series consists of Pesellino and his followers: Pseudo Pier Francesco Fiorentino, Zanobi Macchiavelli, and Giusto d'Andrea. No pictures heretofore attributed to Pesellino by Berenson are homeless, but several are here introduced and restored to Pesellino which were formerly attributed to Compagno di Pesellino whose artistic personality Berenson no longer recognizes as distinct from the master himself. A painting of the Madonna and Angels, recently acquired by Mr. Harold Platt as a work of little value, Berenson considers the most outstanding of Pesellino's works as well as one of the most beautiful quattrocento Florentine works. Of Pesellino's smaller paintings, none of the cassone panels is in circulation, but a fragment of a predella representing David dancing before the ark has disappeared; its three companion panels are still found, one at the Fogg Museum, the other two at Le Mans. A *Pietà*, formerly at Arundel Castle, probably painted by a follower of Giusto d'Andrea the so-called Master of the San Miniato Altarpiece, is fine enough to have been attributed both to Pollaiuolo (ANT. PALLAIOLI is written under the picture) and to the school of Castagno. The Nativity formerly at Castello, from which the Castello Master, a follower of the San Miniato Master, takes his name, is temporarily without a home, being deposited at the Uffizi for cleaning and restoration.

The group of artists following in the train of Fra Filippo and Pesellino would not be complete without Jacopo Sellaio, Benozzo and his second, Alunno di Benozzo; the latter was "discovered" and christened by Berenson, who considers this name preferable to that of "Maestro Esiguo," given to the same personality later by Longhi. Finally, the unattractive Neri di Bicci who, however, seems to have been director of the most active studio of his time. Of all these last mentioned painters there are various works which have changed hands in recent years.

These articles on *quadri senza casa* are valuable for two reasons: not only do they reproduce and discuss many little-noted though often important works of minor masters, but they draw attention to change of ownership and location and sometimes, doubtless, lead to the rediscovery of lost or temporarily mislaid pictures.

Tullio Lombardo and Andrea Riccio.—In *Dedalo*, Anno XII, 1932, Fasc. XII, pp. 901-924 (25 figs.), L. PLANISCIG commemorates the 400th anniversary of the death of the two last sculptors of the Venetian Renaissance: Tullio Lombardo and Andrea Riccio. Though they lived at the same time, near together (Venice and Padua respectively) and were subject to the same influences, their careers were different. Tullio was brought up in the stone-cutter's tradition; Andrea Riccio in the goldsmith's. Tullio worked almost exclusively in marble, Andrea in bronze. Both were influenced by Augustan-Roman antiques, Tullio all through his life, however, while with Andrea Riccio it was only in certain phases of his development. Tullio's best work is a series of remarkable marble busts of young men and women, some in relief and some in the round. Andrea's first period shows naturalistic tendencies, as in the figure of a horseman in Victoria and Albert Museum, of which several replicas exist in other places. In the second phase he is dominated, like Tullio, by Augustan classicism; in his third stage he is still classical, but now it is bucolic nature that determines his conceptions: satyr and Pan figures and an unusual representation of a female satyr in a naturalistic landscape setting. Whereas Tullio Lombardo created but one original in his sculptured figures, Andrea Riccio has many shop replicas from one design. The difference in their style may be summed up in the words static as describing Tullio, dynamic as characterizing Andrea Riccio.

Some Madonnas in Private Collections.—In *L'Arte*, xxxv, 1932, pp. 407-423 (6 figs.), L. VENTURI publishes the following attributions of pictures: a Madonna Enthroned in the Rosenfeld Collection, New York, and another fragment of a Madonna in the Blumenthal Collection, both assigned to Filippo Lippi; in the collection of Sir Joseph Duveen, a Madonna to Botticelli, a Madonna and Angel to Filippino Lippi, and a Madonna to Domenico Ghirlandajo; in the collection of Edsel Ford, Detroit, a Madonna to Perugino. All are reproduced.

Giotto and the Stigmatization.—In *Art Studies*, viii, 2, 1931, pp. 49-57 (7 figs.), F. J. MATHER uses the various treatments of the Stigmata theme by Giotto at different periods of his career as a basis for an outline of his artistic development. Beginning with the nineteenth fresco of the St. Francis series at Assisi he passes on to the predella picture in the Louvre and the newly discovered panel recently purchased by the Fogg Museum, discussing the latter at some length. The little-known fresco in the Chapter House of the Santo in Padua and the design for one of the *formelle* executed by Taddeo Gaddi for a sacristy door at Sta. Croce, lead up to the final version of the stigmata in the fresco over the entrance to the Bardi Chapel. Mather uses as a stylistic basis for dating these pictures the differences in the Gothic features employed which echo the rapid change in Gothic architecture between 1297 and 1320.

The Pupils of Lorenzo Di Credi.—In the *Münch. Jahrb.*, Bd. IX, 1932, Heft 2, pp. 95-161 (49 figs.), is a systematic attempt by B. DEGENHART to disentangle the genuine pictures by Credi from the mass of work by his pupils with which the master's later work has been hopelessly confused. The first individual follower of Credi to be distinguished is the Master of the Göttingen Crucifixion, probably Gianjacopo di Castroëaro. The Göttinger Crucifixion, in contrast to anything painted by Credi, is full of movement and spiritual liveliness; the colors also are not Credi's usual ones, especially the shades of violet. A group of drawings, in the Uffizi and elsewhere, is attributed to this master as well as a number of paintings among which are the St. Sebastian in Cambridge showing Leonardesque influence, and several Madonnas. Another pupil of Credi is Giovanni Antonio Sogliani whose early work, even though done doubtless under Credi's guidance, shows less of his influence than might be expected.

Instead, there is strong influence of Fra Bartolommeo's coloring. Some other pupils of Credi show the influence of Ridolfo Ghirlandajo, and, through him, of Fra Bartolommeo also; foremost among these is Michele di Ridolfo, who studied first with Credi, then under Sogliani and finally worked with Ghirlandajo. This three-fold influence is shown in the Coronation of the Virgin in the Earl of Roseberry's collection, London. To Antonio Ceraiuolo, called "Tommaso," and not to Credi as a late work are attributed four small panels, now in the Uffizi, probably parts of a predella to an altarpiece to the Virgin. Two other pupils of Credi whose work is distinguished from that of their master are Giovanni di Benedetto Cianfanini and the so-called Master of Santo Spirito, Tommaso di Stefano. At the conclusion of the article Degenhart gives a chronological list of Credi's paintings and drawings together with references to reproductions of them.

Some Drawings of Francesco Pesellino.—In *L'Arte*, xxxv, 1932, pp. 357-377 (13 figs.), B. BERENSON disposes of the artistic personality of Compagno di Pesellino, whose supposed paintings he has already attributed to Pesellino. With even more certainty can his drawings be assigned to the master himself, for in them there is no mixture of hands to be accounted for as in painting. The drawings which are dealt with here are chiefly those connected with the *Trinity* of Pesellino in the National Gallery, London. First the drawing in Berlin of the Father Eternal, formerly supposed by Berenson to be a sketch for Pesellino's Eternal in the *Trinity*, is now given to Lorenzo di Credi. Another drawing, in the Uffizi, formerly given to Pesellino, Berenson now thinks is a sketch made by Perugino from the St. Mamas in the *Trinity*. A sketch for St. Jerome in the Staedelinstitut, Frankfurt, is tentatively assigned to Pesellino. The only certain, original sketch for the *Trinity* is the drawing in the Uffizi of two saints, unquestionably by Pesellino, which is a study for Sts. Zeno and Mamas. Another drawing in the Uffizi, formerly attributed to Baldovinetti, has no connection with the *Trinity* figures but is given here as typical of Pesellino's late style.

Sebastiano Serlio.—In *L'Arte*, xxxv, 1932, pp. 183-199 (4 figs.), G. C. ARGAN analyzes the critical and artistic work of Serlio in an attempt to account for his lack of attainment and recognition among his contemporaries. There were two main phases of his career: the period in Venice when,

preoccupied with the problem of space, he was trying to embody the Venetian pictorial representation of space in terms of architectural principles; and the French period when, throwing all architectonic and functional principles to the winds, he lost himself in a maze of abstract psychological categories which he expresses (in his *Libro Extraordinario delle Porte*) in such terms as *solid*, *graceful*, *delicate*, *rough*. The importance of Serlio and the value of his place lie in his personality rather than in his attainments.

Niccolò di Ser Sozzo Tegliacci.—In *L'Arte*, xxxv, 1932, pp. 223-236 (5 figs.), C. BRANDI adds considerably to the artistic production of Niccolò di Ser Sozzo Tegliacci, the Sienese miniaturist known until now by a single work, the signed and dated miniature of the Assumption. First of all, a polyptych in the gallery at Siena, when cleaned, showed a clear signature, associating Niccolò with Luca di Tommè in this work and giving the date, 1362. On the basis of this discovery, other works can be assigned to Niccolò: a polyptych with the Assumption and Saints in the Museo d'Arte Sacra at S. Gimignano, a Madonna in the *Magazzini degli Uffizi*, and a triptych of the Madonna Enthroned with Saints and Angels in the *Società di Pie Disposizioni* at Siena. Niccolò di Ser Sozzo, besides being himself an excellent painter and miniaturist, was of prime importance in establishing the Sienese school of the late fourteenth century.

El Greco's Italian Period.—In *Art Studies*, viii, 1, 1930, pp. 61-88 (34 figs.), E. K. WATERHOUSE deals with the early life of El Greco as far as it is known from the few records available. El Greco's artistic work of this early period Waterhouse divides into two parts: in Venice, before going to Rome, and in Rome. In each case he discusses the influences which affected the development of the young Greco. The author has also compiled a catalogue of pictures of the Italian period, with their approximate dates and descriptive and historical data about them. There are plates for study with excellent enlarged details of certain pictures such as, for instance, those of the Immaculate Conception at Chicago which the author uses to show El Greco's debt to Correggio.

Leonardo Da Vinci, Sculptor.—In *Art Studies*, viii, 2, 1931, pp. 289-300 (13 figs.), R. S. STITES raises the question of the importance of Leonardo's sculpture through its influence on his contemporaries, as a means of bridging the gap in

the development of sculpture between Verrocchio-Pollaiuolo and Rusticci-Lombardi. The difficulty is to identify work by Leonardo in sculpture as in painting, and especially to disentangle it from that of Verrocchio, a problem which Stites tries to solve by means of comparisons based on the various figures which he has selected.

The Influence of Titian and of Spain on the Later Landscapes of Rubens.—In the *Münch. Jahrb.*, Bd. viii, 1931, Heft 4, pp. 281-291 (7 figs.), E. KIESER points out some examples of Titian's influence on Rubens. The first of these is the *Landscape with Rainbow* in Petersburg which shows clearly dependence on an engraving by an unknown artist after Titian. In another landscape by Rubens (copied by Bolswert) a farm building appears which is almost identical with one in a copy of a Titian landscape. The *Holy Family with Saints* in Madrid, whether following any particular picture by Titian or not, shows his influence and that of the Venetian Renaissance. An example of Rubens' southern mountain landscape type with the "grand-sad" conception and mythological subject, is the *Landscape with Odysseus and Nausicaa* in the Pitti, Florence, which shows the effects of his journey to Spain. Two other more important examples of the same type are a landscape, formerly in the Johnson Collection, and another, now lost, known only in a copy by Lucas v. Uden in Munich. The principal signs of this southern influence are a feeling of breadth, a soft clearness in the atmosphere and a gradual transition into the distance together with a structurally-developed landscape—all characteristics potentially present in the Odyssey landscape and raised to greater idealism and monumentality through Rubens' contact with Spain. The influence of Titian appears first in the early phase of the late period, the southern influence in the middle phase, while in the last phase of all (exemplified by the *Landscape with Sunset* in London) reappear earlier elements among which are echoes of Titian, but no longer definite southern influence.

Corot—Classicist or Impressionist? Corot has long been given by French critics a place midway between classicism and modern impressionism, on the ground that some of his works belong to each of these movements. In *L'Arte*, xxxiv, 1931, pp. 398-412 (6 figs.), M. B. PANCIERA examines this ambiguous position in order to determine what Corot really was—a continuer of an old tradition or an innovator. The solution of the riddle lies,

according to Panciera, in the two entirely different sorts of work done by Corot: the academic pieces in which he made conscious efforts to follow classical models, and the spontaneous, lyrical pictures in which he simply and directly followed nature.

ITALY

A Polyptych by Lorenzo Veneziano.—In *L'Arte*, xxxv, 1932, pp. 400-403 (1 fig.), E. VAVALÀ reconstructs a polyptych of which the center is the Delivery of the Keys to St. Peter in the Museo Correr at Venice, the wings are four panels with saints in Berlin, and the predella, five scenes from the lives of St. Peter and St. Paul, also in Berlin. The whole is here given to Lorenzo Veneziano, though the central panel and the predella were formerly attributed by Vavalà to Giovanni da Bologna.

The Earliest Fresco of Fra Filippo.—In *Dedalo*, Anno XII, 1932, Fasc. VIII, pp. 585-593 (4 figs.), A. DE WITT calls attention to what remains of a ruined fresco in the cloister of the Carmine Church in Florence, recorded by Vasari as the work of Fra Filippo Lippi. The subject is the confirmation of the order of the Carmelite Friars by the Pope; the fresco is described by Vasari as being near the Sagra painted by Masaccio. The foundation painting is of terra verde, but colors are used combining with the ground in soft tones of red, yellow, and gray. The part of the fresco which is least damaged represents a charming, peaceful landscape, in the background hills and trees, in the foreground a group of monks, among them a novice kneeling which suggests the prototype of the kneeling angel of later Annunciations. The fresco is particularly important as representing the earliest phase of Lippi's style before he was possessed with the desire for mass and solidity of form under the influence of Masaccio's Brancacci frescoes. This fresco of the *Conferma* was painted probably between 1427 and 1430; after this first proof of his masterful skill, Fra Filippo is registered as "painter" in the account books of his monastery.

An Early Madonna of Jacopo Sansovino.—In *Dedalo*, Anno XII, 1932, Fasc. IX, pp. 702-707 (2 figs.), F. ROSSI attributes to Jacopo Sansovino a Madonna belonging to Carlo Gamba, formerly at Settimello, now at Florence. The relief used to be called a Siennese work of the general style of Jacopo della Quercia—an attribution which Schubring discarded calling it Florentine and not

Sieneſe. By comparing it with other Madonnas by Jacopo Sansovino, notably a very ſimilar one at Pone Caſale, Villa Doria Dalle Roſe, there ſeem to be marked ſtyliſtic ſimilarities as, for inſtance, in the type of face and features of the Madonna, which are definitely characteristic of Jacopo. The relief ſhows ſtrong Donatellesque influence and alſo a ſuggeſtion of Michelangelo; it was probably carved between about 1502 and 1506 when Jacopo as a very young man was working in the ſtudio of Andrea Sansovino at Florence.

An Early Work of Tiepolo.—In *L'Arte*, xxxv, 1932, p. 476 (fig.), A. VENTURI publishes a *Holy Family with an adoring Biſhop*, in the Ranieri Collection at Milan. The vibrant uſe of color is characteristic of Tiepolo, and eſpecially the combination of roſe and gray in the garments of the Virgin indicates an early work.

A Portrait by Paolo Veroneſe.—In *L'Arte*, xxxv, 1932, p. 404 (fig.), A. VENTURI publishes as one of the fineſt and moſt important pictures of Veroneſe, a portrait of a woman executed for the noble family of Cuccina. The picture is now in a private collection in Milan.

An Angel by Deſiderio Da Settignano.—In *L'Arte*, xxxv, 1932, pp. 153-160 (5 figs.), L. BECHERUCCI reſtores to Deſiderio in part a monument at one time attributed wholly to him but later given to Bernardo Roſſellino. The monument is the Tomb of Beata Villana in S. Maria Novella recorded as worked on by Bernardo and his companions. Becherucci differentiates the ſtyles, eſpecially in the two angels, and recognizes in the one on the right the exuberant ſpirit of the young Deſiderio with the delicate, eluſive ſmile characteristic of his figures. Deſiderio may have been engaged on this work about the middle of the fifteenth century.

Sculpture in the Camposanto at Piſa.—Hidden away in the depository of the Camposanto are a number of ſtatues and fragments almoſt inacceſſible to the public, ſome of which M. MARANGONI in *L'Arte*, xxxv, 1932, pp. 257-282 (14 figs.), attributes not to Giovanni Piſano as was formerly done, but to his pupil, Tino di Camaino. Moſt important among theſe are two additional fragments of the baptiſmal font, which confirm its attribution to Tino. Two ſeated Madonnas, one probably a replica, by Tino are there and two figures of prophets, one, a very fine work worthy of Giovanni Piſano, probably alſo by Tino, the other by another pupil of Giovanni. Two ſtatues

of angels, one probably by Tino, another by a pupil of his, while a third may be by a follower of Nino Piſano, are among the treaſures of the depository. Marangoni regrets that the Camposanto ſculpture is ſo poorly cared for both in the duſty depository and in the open cloiſter, and ſuggeſts that it might better be collected in the Muſeo Civico.

Baroque Ivories in the Muſeo Criſtiano.—In *Art Studies*, viii, 2, 1931, pp. 35-45 (13 figs.), D. D. EGBERT diſtinguiſhes two groups of late ſixteenth and early ſeventeenth century ivory ſtatuettes, one, which he diſcuſſes as Group A, being of Spaniſh-Portugueſe workmanſhip, the other, Group B, originating probably in Goa and being of eaſtern workmanſhip under ſtrong Spaniſh or Portugueſe influence. Though both groups are made from Indian ivory and, though the general iconography in both caſes is weſtern, there are certain ſtyliſtic differences between them, notably a ſtrong tendency in the provincial work to exaggerate all the Spaniſh-Portugueſe characteristics.

GERMANY

Some Newly Acquired Drawings in Berlin.—In *Berliner Muſeen*, lii, 1931, Heft 6, pp. 108-112 (5 figs.), J. ROSENBERG notes the following acquisitions of the Kupferſtickkabinett: A "Little Maſter" pen drawing of the Sorrowing Hagar, probably by Barthel Beham; an early drawing by Rubens of a ſtanding nude female figure which ſhows ſuggeſtions of Dürer, but in poſe and in details ſuch as the arrangement of the hair is very cloſe to a bronze Venus by Konrad Meit. As the latter was undoubtedly influenced by Dürer's drawings, the ſuggeſtion of Dürer in the Rubens is accounted for. A third acquisition is a large pen drawing of the Entombment by Rembrandt. A landscape by Ruisdael from the Hermitage collection and a Bacchanale by Gabriel de Saint Aubin complete the liſt of which all but the Rembrandt are reproduced in the article.

Pietro Francavilla.—In *Berliner Muſeen*, liii, 1932, Heft 2, pp. 23-26 (5 figs.), E. F. BANGE points out the importance of the acquisition by the Berlin Muſeum of a ſeries of four bronze plaques with ſcenes of the Paſſion by Pietro Francavilla. The reliefs were planned by Giovanni da Bologna but executed by his Netherlandiſh pupil in 1588, and they are the firſt certain works by Francavilla to be placed in this muſeum. Oddly enough, juſt after the reliefs were pur-

chased, a bronze statuette of the Virgin was also acquired by the same museum which, because of its stylistic closeness to the relief plaques and to the allegorical statue of the Holy Life in SS. Annunziata, Florence, must be assigned to Francavilla. On the basis of stylistic resemblances, also, the "Vogelsteller" in Berlin, formerly thought to be by Giovanni da Bologna, may be tentatively attributed to Francavilla.

A Lost Fragment of an Early Fifteenth Century Westphalian Altarpiece.—In *Berliner Museen*, liii, 1932, Heft 1, pp. 9-12 (3 figs.), R. FRITZ identifies a small wood panel painted with the Presentation of Christ in the Temple, recently given to the Deutsches Museum, in Berlin, as a section of one of the two lost wings of the Bielefelder altarpiece. From sketches in Minden of thirteen of the pictures from these panels and from comparison with the scenes of similar altarpieces, Fritz reconstructs the wings of the altarpiece. The date, according to its style, must be about the third decade of the fifteenth century. The altarpiece shows unmistakable signs of Westphalian workmanship; possibly the hand of a pupil of Conrad von Soest may be seen in the central panel, while other scenes on the same altarpiece may be by his shop assistants or followers.

HUNGARY

Italian Art at Strigonia.—In *Dedalo*, Anno XII, Fasc. XII 1932, pp. 933-960 (29 figs.), E. B. TOESCA publishes some of the more important works of Italian art in the Hungarian city of Esztergom, the former Italian Strigonia. There are, it seems, good examples, many of them almost completely unknown, of the various Italian schools of painting in the Museo Cristiano as well as many valuable and interesting objects in the treasure of the cathedral.

FRANCE

Two Unedited Paintings of Simone Martini and Pietro Lorenzetti.—In *Dedalo*, Anno XII, Fasc. IX, 1932, pp. 659-665 (1 pl. and 3 figs.), A. COLASANTI attributes to Simone Martini a small panel with St. John the Evangelist, in a private collection in Paris. On the basis of comparison with the frescoes in the Chapel of St. Martin at S. Francesco, Assisi, Colasanti suggests the hypothesis that this panel is a fragment of a polypych or crucifix ordered for the Chapel at the same

time and so dating between 1318 and 1320. In another panel in a private collection at Rome, representing a saint, probably St. James the Apostle, Colasanti recognizes the wholly different style of Pietro Lorenzetti of about the year 1330.

A Madonna of Filippo Lippi.—In *L'Arte*, xxxv, 1932, pp. 104-109 (2 figs.), P. TOESCA attributes to Fra Filippo one more typically charming Madonna, formerly in a private collection near Florence, now at Nice. Toesca recognizes characteristic details of the artist's style and places it between the *Tarquinia Madonna Enthroned* and the *Uffizi Coronation*, that is, in the period when the influence of Masaccio on Fra Filippo was most apparent.

SPAIN

Rodrigo de Osona.—In *Archivo Español de Arte y Arqueología*, num. xxiii, 7, 1932, pp. 101-147 (42 figs.), E. TORMO Y MONZO presents in a detailed study the sum total of documentary evidence thus far come to light concerning the painters Rodrigo de Osona, father and son, whose chief importance is their influence, which was, apparently, considerable in the late fifteenth and early sixteenth century. Little enough is known about either of them: the father was a painter in Valencia probably between 1476 and 1482; the son and his followers were the most popular (or, at least, the most highly paid) painters in Valencia in 1513. One picture, a Crucifixion in St. Nicholas, Valencia, is signed and documented as a work by the elder Rodrigo de Osona, and was painted in 1476. An Adoration of the Magi in the National Gallery is signed as by the "son of Master Rodrigo." On the basis of a careful style analysis, various other pictures are here attributed by the author.

ENGLAND

A Titian Portrait.—In *L'Arte*, xxxv, 1932, pp. 481-497 (6 figs.), L. VENTURI attributes to Titian a portrait of a man formerly in the Earl of Durham's Collection at Lambton Castle. The picture has been generally assigned to Sebastiano del Piombo. Other attributions to Titian given in the same article are a portrait of Daniele Barbaro in the National Gallery of Ottawa, a Venus, Ceres and Cupid in the Wildenstein Collection, and a St. Jerome, in the Boehler-Steinmeyer Collection, New York.

NEWS ITEMS FROM ATHENS

In the early days of the past autumn the Acropolis of Athens welcomed back the ghost of a former inhabitant, for a figure of Theseus (Dionysos?) once more reclines in the east pediment of the Parthenon. It is a very fine copy in cement of the marble original and is the gift of the British Museum. When the idea of placing cement copies in the pediments of the Parthenon was first suggested, a great storm of protest was aroused, but the Theseus had been back in the pediment for some days before the general public or the journalists noticed him.

An Open Meeting was held at the German Archaeological Institute on December 9, 1932, as a Winckelmann Memorial. Reports were given by Professor Orlandos of the École Polytechnique on his excavations at Alipheira in Arcadia, one of the towns captured by Philip V and his Macedonians in 219 B.C.; and by Dr. Welter on his recent excavations of the Sanctuary of Asklepios at Troizen some 15 miles south of Epidauros. The site of Alipheira had been identified by Leake, Ross, and Curtius as the high isolated mountain on the southern side of the valley of the Alpheios about midway between Olympia and Phigaleia but nearer the modern village of Zacha. Frazer also had visited the site and traced many of the fortification walls on the summit of the Acropolis and on the lower slopes of the mountain, but it had never been excavated until Professor Orlandos began his work in the summer of 1932. The chief results of his campaign were the clearing of the foundations of two temples and the uncovering of two Hellenistic mausolea.

The first temple was on the acropolis and Mr. Orlandos has identified it as the Temple of Athena described by Pausanias (VIII, 26, 4). This was a peripteral temple, 29 m. x 10.65 m., and had only one step above the euthynteria like the Temple of Hera at Olympia and the Hekatompedon. The columns were of conglomerate, six on the ends and fifteen on the long sides. Several drums of these columns were found and one capital showing a rather flattened curve to the echinus. No pieces of the frieze were recovered but a quantity of roof-tiles made of coarse-grained Island marble: flat tiles, cover-tiles, and end-tiles with a painted decoration. In front of the temple there were found *in situ* five bases for dedica-

tory statues. It is quite obvious from the dimensions of this temple that the colossal bronze statue mentioned by Polybios (IV, 78) could not have stood within the naos but like the Promachos on the Acropolis must have been outside. Small finds from the neighborhood of the Athena temple consisted of part of a lebes of the first half of the fifth century B.C. and a head of Medusa of the fourth century B.C., but more important still was the finding of an inscription which mentions the Alipheiraans four times, thus giving epigraphical confirmation of the identification of the site of Alipheira. The inscription deals with the settlement of the boundary between the territory of the Alipheiraans and the Lepreaans.

The second temple, which belonged to the Hellenistic period, was near the western end of the acropolis and is probably the Temple of Asklepios mentioned by Pausanias. Within the temple were found the statue base and the "holy table." On the evidence of coins found in the excavation, this temple may be dated before the second century B.C.

In the third region investigated by Mr. Orlandos two Hellenistic mausolea were uncovered. One is hewn in the rock and has four rectangular compartments with dividing walls ending in four-sided pilasters supporting the horizontal epistyle with a pediment above. This type of tomb is not met with elsewhere in Greece. On the architrave are inscribed the names of the dead and upon the central pilaster a fine epigram of the third century B.C. The second funeral monument is of Attic type, consisting of a base in the shape of the letter Pi (Π), upon which is a naiskos with the names of the dead, apparently husband and wife. The excellence of the workmanship and the forms of the letters assign the monument to about 300 B.C.

Another find of Professor Orlandos was a bronze statuette of a nude bearded male figure, standing with the weight on both feet in a position similar to that of the so-called Pythagoras in the Museum of Syracuse. To judge by the face, the Alipheira statuette probably represents a Satyr, but it is an incomplete example damaged in the casting, for the tail is missing as well as the supports for the feet. Dr. Orlandos considers that

this statuette belongs to the earliest classical times.¹

Although Troizen had been an important town in antiquity, closely allied to Athens at one time but later under the hegemony of Sparta, and well-known because of its Sanctuary of Asklepios and through its connection with the tragic story of Hippolytos and Phaedra, its ruins had never been scientifically explored except for some trial trenches dug by the French School in 1893. The modern village of Damalas is built above the ruins of the ancient city, but it was the region of the sanctuaries to the west of the city which interested Dr. Welter more particularly since the description in Pausanias (II, 31 and 32) is not very clear and the trial trenches of the French had revealed a puzzling building, apparently a Banquet Hall. The funds for the new excavation were provided by the Catalan Society of Barcelona and work was begun on the great square building, 31 m. x 31 m., which stands on a plateau 400 m. long rising about 50 m. above the plain. This consisted of a large hall 31 m. in length and 10 m. wide with two doors opening on the north side leading to a court with a peristyle. Smaller rooms opened off this court on the other three sides; those on the east and west were found in a fairly good state of preservation while those on the north were ruinous. Down the centre of the Hall foundations for three columns were still *in situ*, while along the walls and projecting at right angles towards the columns were the bases for couches numbered alphabetically and having oblong marble tables beside them. The couches would have been 1.80 m. long by 0.82 m. wide and they numbered 62 in all, while the tables are 0.80 m. long. The rooms to the west and east of the court measure 4.50 m. x 6 m. and have the same arrangement of couches. The floors of the Hall and the smaller rooms were made of pebble mosaic which could easily be washed, since arrangements were provided for carrying off the water through channels leading under the door-sills to the gutters which bounded the open court. The lower part of the walls was constructed of great slabs of blue marble while the upper part had obviously been built of unbaked brick. The reconstruction of the building is quite certain even up to the roof, as all types of the roof tiles were recovered. The building must have had an external appearance very similar to

that of a basilica with cloisters attached, as the great hall was higher and had a pitched roof while the rooms around the court had their roofs sloping inward. From the pottery found in the various parts of the edifice, Dr. Welter has dated the building to the Hellenistic period between 250 and 200 B.C. This type of architectural complex is interesting as it reappears in the second century A.D. in the synagogues of Galilee and has always been supposed to have originated in Alexandria.

The purpose of the building in Troizen was undoubtedly for the use of patients who came to the Sanctuary to be cured and who slept here to await the visit of the god and the subsequent cure. The peculiar channels sunk in the floor between the couches and covered by tiles were probably used for burning herbs, the fumes of which were calculated to inspire the dreams of the patients and to help effect their cure. The services of the God of Healing might well have been invoked by the excavators, as the whole region in modern times is malarial and their diet consisted largely of quinine.

The work at Eleusis, directed by Dr. K. Kourouniotis and Dr. George E. Mylonas of the University of Illinois, was continued during the spring and summer of 1932, the efforts of the excavators being concentrated this year on the Telesterion. All the fill has been removed, and the living rock has been uncovered everywhere. The foundations of the classical buildings and of their columns are now cleared and ready for study. Under the polygonal Telesterion the remains of the round building noted by Philios were laid bare; they appear to have formed part of a sanctuary that was in use during the tenth and ninth centuries B.C. The retaining wall of the terrace on which this temple was built was uncovered, and the entrance to the sanctuary, with three steps, is still preserved *in situ*. This round building was partly based on a Late Helladic III wall which was found to be a peribolos wall enclosing a megaron-shaped building, the foundations of which were uncovered to their full length. The excavators believe that this building and the later additions are an earlier sanctuary that was built during the fifteenth century. It remained in use until the end of the Mycenaean Age, as is indicated by the pottery recovered. The terrace wall of the polygonal sanctuary was also cleared in its whole extent, and outside it, near the entrance to the sanctuary, a great pyre was found,

¹ For this Report I am indebted to the kindness of Professor Orlandos.

rich in terracottas, Corinthian and black-figured vases, lamps and other small offerings. The clearing of the southern court brought to light the remains of the Periclean entrance to the sanctuary, the entrance from the sea, guarded by a square tower; part of the latter is preserved, and the bedding, cut in the rock, for its lowest course of stone permits its complete plan to be recovered. Outside the Telesterion extensive soundings were made on the top of the hill behind the sanctuary. Most of the trenches dug revealed nothing of importance, but at the extreme eastern edge of the hill and to the west of the steeple of the modern Chapel of Panaghitsa the remains of what appears to be a Late Helladic III palace came to light. This seems to support the view that the large building discovered beneath the polygonal Telesterion was not the residence of the ruler. The excavators hope to uncover the whole of the palace in the next campaign.

To the west of the Eleusinian Acropolis, and between it and the hill crowned by the Venetian tower lies a plateau which had not been previously tested. Digging on its southern slope revealed a retaining wall of great length, carefully built of large Eleusinian blocks probably in the Hellenistic period. Along the front of this wall a broad roadway was laid bare together with many houses built in blocks below it. The space enclosed by the retaining wall was tested, but the complete excavation of this area was postponed to another campaign. It may contain another sanctuary like the one known as the Sacred House, excavated some years ago by Dr. Kourouniotis. The chief importance of this season's work, however, is believed by the excavators to be its contribution to our knowledge of the Telesterion itself; for it has now become evident that there was a sanctuary on the spot during the Late Helladic III period and that the mysteries as well as the temples go back to a date considerably beyond that assigned to their origin by the late Professor Noack.

The British School at Athens carried on two campaigns in the spring and summer of 1932, the first under the leadership of the Director, Mr. Payne at Perachora and the second under Mr. Heurtley, the Assistant-Director, in Ithaca. The campaign at Perachora was the third undertaken at this site by the School and its principal objective was the clearing of the area in which great quantities of small objects, dedicated to

Hera, had been found in the two previous years.¹ This work uncovered the foundations of a very early temple of Hera and a great part of the walls which surrounded the Sanctuary. The precinct appears to have been rectangular, the east wall, the whole length of which can be traced, measures 25 m.; of the north wall 13 m. are preserved, but the deposit of votive offerings suggests that on this side and on the south, where the sanctuary is bounded by rocks, the length was at least 30 m. The foundations of the temple lie in the south-eastern part of this area. The building, of which two courses of rough foundations are preserved, faces north and south and measures 9.5 m. x 5.5 m. Almost exactly in the centre of the building is a rectangular sacrificial pit (1.4 m. x 1.05 m) bordered with stone. This was entirely filled with grey ash. The presence of an altar or sacrificial pit inside the building is a rather unusual feature which is paralleled by early temples in Crete and elsewhere. The temple itself was evidently kept clear of offerings, for it contained remarkably few sherds. In the immediate neighborhood, however, there was a particularly rich deposit of pottery, ivories and scarabs, and from the relation of its lowest strata to the foundations of the temple it was evident that the building in its present form goes back at least to the early seventh century. This conclusion agrees with the evidence derived from a series of painted roof-tiles which are undoubtedly of seventh-century date. The best example is almost complete: it consists of a very large flat tile made in one piece with two cover-tiles, probably unique. On the front of the cover-tiles are painted volutes and palmettes and on the flat tile a black and red cable. The shape and patterns indicate a date considerably before the end of the seventh century.

The votive deposits near the temple are fairly well stratified in a chronological series but in the western part of the temenos later buildings had disturbed this stratification. The bronzes found in 1932 include, beside a great number of other small objects, several geometric horses (Pl. XXV, Fig. 1), a lion and a gorgon (Pl. XXV, Fig. 2) like those found in 1930, another lion, a cow and, at some little distance west of the Heraeum, a dove of fine Proto-Corinthian style (Pl. XXV,

¹ I am much indebted to Mr. Payne, Director of the British School, for his kindness in furnishing me with the photographs and information contained in this report.

Fig. 3), dating from about the middle of the seventh century. There were also a great number of ivories: as against some twenty circular seals with engraved designs found in the two previous years, over sixty were found this year, as well as a large collection of "spectacle-fibulae," ivory and amber fibulae and pendants, seven figures of couchant animals more or less closely resembling those from Sparta, and a bone figure of the goddess which has some Laconian parallels. The most remarkable ivory yet found, and one of the finest early ivories ever found in Greece, is a Sphinx nearly three inches high, carved in the round, an early Daedalic work of the first quarter of the seventh century (Pl. XXV, Fig. 4). The mass of pottery requires further detailed study, but two inscribed fragments, one of the seventh century, one of the late sixth or fifth, must be mentioned, since they record dedications to Hera Limenia (Hera of the Harbor); the same dedication was found on a bronze bull discovered last year. Thus in the only three instances in which the goddess has an epithet she is described by a name other than that which is recorded by the literary sources (Hera Akraia), and further, by one which does not at first sight commend itself, since the place possesses no good harbor. Imported objects were again extraordinarily plentiful: some 500 faience scarabs, beads and small figures were found, bringing the total for three years to over 750—a number considerably larger than that from all the sites of mainland Greece put together, and all the more surprising since only one scarab has been found in Corinth. Some of these scarabs are said certainly to be Egyptian, others, apparently, may be Cypriote or Syrian. A large bronze earring plated with gold is undoubtedly Cypriote. The imported pottery found in this campaign includes wares from Attica, Laconia, Argolis (terracottas and many pieces of a very large geometric krater), Thera, Rhodes, Naukratis, some Etruscan bucchero and a small votive altar of West-Greek fabric. An interesting illustration of the Argive connection is given by a clay plaque of the early seventh century which was made in the same mould as a plaque found in the excavations of the Argive Heraeum. The most surprising of the imports is, however, a bronze belt-clasp in the shape of a lion, schematically rendered, perhaps Scythian or Cappadocian in origin. A carnelian scarab, probably imported from some East-Greek city, shows an engraved design of Herakles about

to shoot an arrow. This is one of the finest existing gems of the late sixth century.

After the clearing of the Heraeum area some trenches were cut in the steep slope just above the seashore, due east of the harbor temple. These led to the finding of a Doric stoa built of limestone with pebble mosaic floor. This is the best preserved of the buildings so far found at the Heraeum (Pl. XXVI, Fig. 5). It is L-shaped measuring a little over 17 m. along each of the back walls, with a façade of six Doric columns on each arm. One column drum was still standing in position, and one other was found near the stylobate; the rest had disappeared. The back wall is well preserved at the west end and at the central angle. Almost the whole of the entablature can be reconstructed with certainty from fragments found within the stoa. On the fine marble stucco with which the building was faced there are many clear traces of red, blue, and black patterns, which makes it possible to restore the color-scheme of the whole. A great many pieces of architectural terracottas were found: these are nearly all decorated with palmettes in the style of the late fifth or early fourth century, a date to which several other features of the building point. A number of fragments of Ionic half-columns were found inside the building which may have stood against the back wall at some height above the ground. The capitals of these half-columns bear an obvious resemblance to those from the temple at Bassae.

A few yards west of the stoa, and on the same stretch of pebble pavement, there is a large base or altar consisting of a frieze of triglyphs and metopes, standing on a low plinth—a scheme which recalls other monuments in Corinth and its colonies. On either side of this was an Ionic column; the base of one of these columns is preserved, and, like the capitals of the half-columns found in the stoa, shows a strong resemblance to the type used at Bassae. The harbor temple (Pl. XXVI, Fig. 6) which may perhaps be a temple of Artemis was further studied and the statue base in the central compartment of the west end was raised. Beneath it were found five small silver coins of archaic type. Further progress was made with the excavation of the Agora, and some fine pieces of a painted terracotta cornice dating from the late fifth century were found; also a very fine terracotta head of a woman two inches high of late fourth or early third century style. In a field

behind and above the agora an exploratory trench was dug in which part of a very early seventh-century relief plaque was found. This area must be further explored. Trial trenches were also dug on the two acropolis rocks, at Hagios Nikolaos and near the lighthouse, where there are ancient fortification walls. Near the lighthouse, a fairly well-preserved house with walls dating partly from the archaic, and partly from the Hellenistic, period was found. The architect also surveyed the whole area from Lake Escha-

tively identified last year as those of a burnt house, proved to be a series of small cairns heaped over ashes which rested on a floor of potsherds. This custom of raising cairns over human ashes was common in Greece in the Heroic Age and, according to Homer, both Greeks and Trojans disposed of their dead in this way. Since the pottery found at Aetos belongs to the sub-Mycenaean and Proto-Geometric periods these cairns must be dated to the tenth and ninth centuries B.C. The only other objects associated with the



FIG. 1.—ITHACA. AETOS. PROTO-CORINTHIAN VASES FROM UPPER STRATUM.
THREE REPRESENT THE GEOMETRIC PHASE

tiotis to the lighthouse, and planned three of the large ancient cisterns in the fields northeast of the Heraeum valley. The most interesting of these consists of three vertical shafts cut in the rock, and approached from one side by a stairway which runs underground to a depth of over ninety feet.

Under the leadership of Mr. Heurtley the British expedition promoted by Sir Rennell Rodd, completed its third exploratory campaign in Ithaca on the 15th of October.¹ At Aetos, in the south half of the island, they continued the exploration of the sub-Mycenaean and Proto-Corinthian deposits begun last year. In the sub-Mycenaean area the remains which were tenta-

¹ I am much indebted to Professor Heurtley, Assistant Director of the British School in Athens, who was good enough to give me this report.

cairns were two Mycenaean spindle-whorls and a bronze pin. The Proto-Corinthian deposit is separated from the sub-Mycenaean by a terrace wall, and there is some evidence that the numerous Proto-Corinthian vases and other objects found, were placed, originally, above the cairns, but that later, owing to successive collapses of the terrace wall they were scattered down the slope gradually forming two strata which could be distinguished. From the upper stratum over 170 vases have been put together and many more await completion (Figs. 1-3). These vases illustrate the development of the Proto-Corinthian style from its earliest to its latest phase, and there is much local material new in form and decoration. Especially interesting is part of a tall vase bearing on the stem the signature of the artist

ΚΑΛΙΚΛΕΑΣ ΠΟΙΑΞΕ (Fig. 4). The upper part is missing. In addition to the vases, many votive objects were found (Fig. 5); bronze beads, rings and pins, a bronze Sphinx, glass beads, amber beads, an amber ornament which has, on its upper surface, an animal in relief, several terra-



FIG. 2.—ITHACA. AETOS. OENOCHOE AND RING FLASK. IMPORTED WARE

cotta figurines, some gold beads, silver bracelets, ivory pendants in the form of animals; many iron weapons, and a few stone beads. These objects, which belong to the eighth and seventh centuries B.C., were, perhaps, dedicated by Corinthian colonists, who, as the trade of Corinth



FIG. 3.—ITHACA. AETOS. BIRD-SHAPED VASE, PERHAPS AN OIL FLASK

expanded westward, founded a half-way station in Ithaca. At the small harbor which lies below the sanctuary the clearing of the big wall which runs at right angles to the shore was continued. The western face is ruinous, but the eastern is well preserved and is a fine example of polygonal

masonry. On the evidence of the pottery found in association with it, it was built in the fourth or third century B.C., and destroyed in the first or second century A.D., perhaps by the same earthquake which caused the collapse of the cave at Polis. The style of construction is not inconsistent with this dating. In a small cave at the west end of the harbor, stratified traces of Graeco-Roman occupation were found. The floor of the cave, like that of Polis, lies about one and a half metres below the level of the sea. For this reason it was impossible to complete the exploration of this cave, but from the water and



FIG. 4.—ITHACA. AETOS. VASE WITH SIGNATURE OF ARTIST KALIKLEAS

mud fifteen Late Mycenaean sherds of good style were recovered.

In the cave at Polis, by the use of a powerful pump, Miss Benton and her assistant were able to clear a fairly large area down to the rock. The stratified layers revealed that the cave had been used from pre-Mycenaean times to the first or second century A.D., when the collapse of the roof took place. To the Mycenaean period belongs a stone pavement, and to a later period belongs a terrace wall which was reached from below by steps. Beside the steps stood four bronze tripods, of one of which all the essential parts have been recovered. It resembles the well-known tripods found at Olympia, attributed to the ninth and eighth centuries B.C. Parts of four more were

also found (Fig. 6). Of the other finds, the most interesting is a bronze statuette of a bearded man of the Geometric period and the upper half of a

In Cephalonia two rock-cut Mycenaean chamber-tombs were cleared during the summer of 1932 by Mr. Marinatos, the Ephor of Antiquities

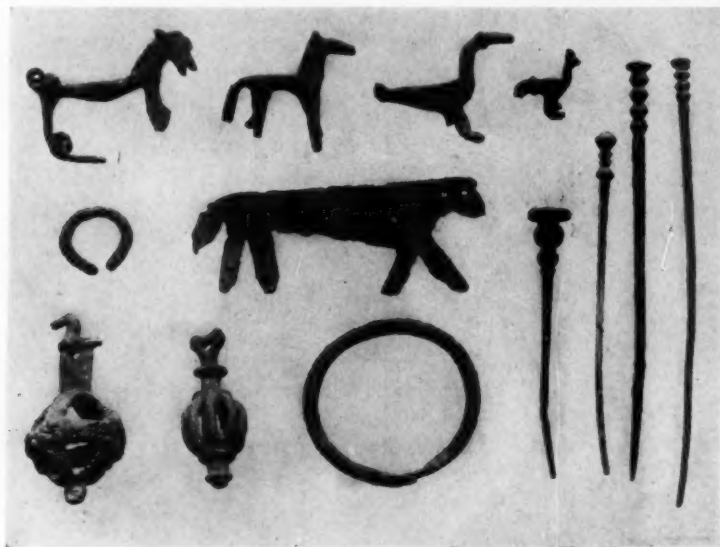


FIG. 5.—ITHACA. AETOS. PROTO-CORINTHIAN VOTIVE BRONZES

large female figure, perhaps a reproduction of a primitive cult-statue of the sixth century B.C., wearing a head dress. In addition to the late



FIG. 6.—ITHACA. CAVE AT POLIS.
HANDLE FROM A BRONZE TRIPOD

Mycenaean and sub-Mycenaean vases found last year, many twelfth-century Mycenaean sherds and some pre-Mycenaean were also found.

in Crete. These tombs were near the village of Lakythra in the southwest corner of the island. The smaller of the two tombs, like a miniature beehive in shape, was intact and produced more than sixty vases, all small, and the usual complement of other small finds, chief among them being an amulet and an engraved gem of rock-crystal with a linear design. Both the dimensions of this tomb and the type of funerary equipment would indicate that it had belonged to a rather poor family. The second tomb, however, was very large and had niches cut in its circumference so that it was almost trefoil in shape. The roof had fallen in and the tomb had been plundered. Eleven burial pits were found in the floor of the chamber and a twelfth in the dromos just outside the door, but the cover-slabs of all these except the one in the dromos, had been pushed aside by the plunderers and the tomb left in great disorder. In the dromos pit two skeletons were found undisturbed, but no offerings had been interred with them. From the debris within the chamber it has been possible to reconstruct more than one hundred vases, several of which are fine examples of Late Mycenaean ware: the series of large and small kraters is noteworthy, as is the

abundance of high-footed kylikes and jugs. There is also a very fine specimen of an amphora 0.40 m. high. The plunderers in their haste had dropped or overlooked a little of the jewelry and the excavators recovered a series of glass rosettes, bits of gold leaf, a dozen large and small gold beads, and one in the shape of a papyrus flower, and another with granulated decoration. The most interesting of the small finds was a thin gold chain 0.17 m. long, of very delicate workmanship. Mr. Marinatos considers that his discoveries have proved that in Cephalonia, and especially in the region of Livatho (extending from St. George to the south end of the island), a vigorous civilization flourished towards the end of the Mycenaean epoch and that this was the centre of the realm of the "great-souled Cephalonians" mentioned in the Odyssey.

The Ephor for Achaia and Elis, Mr. Nerantzoulis, has recently identified a site about 800 m. up on the western slope of Erymanthos as that of ancient Tritia, one of the cities of the Achaean League. He places it near the village of Hagia Marina in the angle where Achaia, Elis and Arcadia meet and not at Kastritza where Frazer and earlier topographers had supposed it to be. No conclusive evidence for their choice had ever been produced, and the distance from Kastritza to Pharai did not correspond to that given by

Pausanias for the distance between Tritia and Pharai. Trial excavations were carried out on the new site and the extent of the city was determined as about 400 stremmata. Since the layer of soil over the ruins was not very deep the walls of the city and the cemetery were very soon uncovered. Foundations and columns of public buildings, preserved to a considerable height were found *in situ*. Funerary inscriptions, bronze coins of the Achaean League and a quantity of Hellenistic pottery were also recovered. Three buildings were excavated, one a temple, either that of Athena or else the Temple of the Great Gods mentioned by Pausanias (VII, 22, 9). The second building does not have the ground plan of a temple, but it is well built, and from the fragments of plaster wall paintings would appear to have been elaborately decorated. On the floor were found many coins of Sicyon and Thebes. Not very far from this building there was uncovered the end of a long stylobate which runs from east to west and has a length of ca. 35 m. This is, in the opinion of the excavator, the stoa of the Agora of Tritia. The cemetery of the city was also discovered and fourteen funeral inscriptions belonging to it. A large inscription containing the laws of the Achaean League was also found. The site needs further exploration next spring.

ATHENS

ELIZABETH PIERCE BLEGEN

PALESTINIAN AND SYRIAN ARCHAEOLOGY IN 1932

The entire range of history is now the concern of scientific Palestinian archaeology, and in the last few years attention is also being increasingly directed to its prehistoric periods. In several recent campaigns Miss Dorothy Garrod, on behalf of the British School of Archaeology and the American School of Prehistoric Research, has studied prehistoric deposits in several Palestinian caverns, especially at Shuqbah in southwestern Samaria and at Wādī el-Mughārah (Valley of the Cave), which lies at the foot of the western slope of Mt. Carmel, twelve miles south of Haifa. Among her most valuable contributions have been the discovery and study of a new culture, with African affinities. She has termed this culture "Natufian," since the cave of Shuqbah, in which it was first discovered, lies in the Wādī en-Nāṭūf. (*B.A.S.O.R.* 33, p. 9.) The work of the first two seasons at Wādī el-Mughārah was practically confined to the largest cave of the group, the Mughāret el-Wād (Cave of the Valley).¹ The 1931 excavations in Mughāret el-Wād revealed a mesolithic industry of the Natufian type. Two distinct layers were found,² which contained a number of burials. Seventeen well defined burials of individuals were identified, but in addition to these a large number of fragmentary, ill-preserved remains were found, so closely huddled together that it was impossible to separate individual bodies. In three cases at least,

¹ It yielded the most complete historic sequence of the prehistoric period so far known in Palestine, the layers from above downward being as follows:

- A. Bronze Age to recent.
- B. Mesolithic.
- C. Aurignacian with Capsian affinities.
- D. Middle Aurignacian.
- E. Lower Middle Aurignacian (Krems level).
- F. A bed of rolled flints containing both Aurignacian and Mousterian forms.
- G. Mousterian.

(*B.A.S.P.R.*, April, 1932, p. 6.)

² The two levels were designated B¹ and B². In B¹ micro-burins were abundant, although they were rare in B². Sick-le-blades which were rare in B¹ were abundant in B². Bone implements were practically confined to B², consisting of fragments of harpoons and sickle-blade hafts. Bone pendants were also found (*op. cit.*, p. 7).

the body must have been bound before rigor mortis set in, as the knees are closely drawn up to the chin. The bodies faced all points of the compass. On the skull of the skeleton of a young child was a kind of a cap, composed of bone pendants or beads made from the bones of a gazelle or goat. This seems to have been a fairly common kind of ornamentation—two other skeletons being found with similar adornments. One well preserved adult skeleton of this group was found placed on the left side with the knees drawn up to the chin, and on the head was a circlet, perfectly in place, made up of seven rows of dentalia.

Two other caves of this group were examined under Miss Garrod's direction, namely the Mughāret et-Tābūn (Cave of the Oven), and the Mughāret es-Sukhūl (Cave of the Kids). The importance of the former lies in the association of an abundant fauna with the Mousterian objects,—which was thus far unknown in this region. Some of the most spectacular and valuable discoveries ever made in excavations of prehistoric sites were those made in 1931 and 1932 in the Mughāret es-Sukhūl. One of Miss Garrod's associates, Mr. T. D. McCown, who represented the American School of Prehistoric Research, was in charge of the work done in this cave in 1931. In its Mousterian level, as reported in the *JOURNAL* previously (Vol. XXXVI: 1, p. 64), a practically complete skeleton was dug out. It was sent to London, and freed from the breccia in which it was encased. It has now been adjudged by Sir Arthur Keith to be the skeleton of a child, about two and a half years of age, of marked Neanderthal type. (*B.A.S.P.R.*, April, 1932, pp. 11–15).

When excavations were resumed in Mughāret es-Sukhūl in the spring of 1932, Mr. McCown, now in charge of the joint expedition during the absence of Miss Garrod, discovered a cemetery with Neanderthal skeletons. All the skeletons in this cave, totalling nine, together with the Neanderthal child, with one exception, were found in the breccia at a depth of two to three metres from the surface. Artifacts of the Mousterian epoch were discovered with them. One of the skeletons had, clasped to his breast, the jaw of a wild boar. The skeletons thus far fully

cleared from the breccia in which they were imbedded indicate that the Mousterian inhabitants of Palestine, while showing positive Neanderthaloid affinities, had some characteristics that link them to modern races. The high and capacious skulls, and jaws with well marked chin, contrast sharply with the heavy brow ridges, pronounced alveolar prognathism and taurodont dentition. The size and length of the limbs separate them from the short Neanderthals of Europe, but the curvature of the femora indicates a slouching posture. The differences, according to the excavator and Sir Arthur Keith, warrant a provisional separation from the European Mousterians. Sir Arthur Keith proposes a new species, "*Palaeanthropus Palestinus*," in which the Galilee skull would be included. He considers the *Palaeanthropus* of Palestine to be a transition type, with some features, however, which make it difficult for him to be regarded as the direct ancestor of modern man. He is of the opinion that the evolutionary cradle-land of modern humanity lies still farther to the east and has yet to be discovered. (*Q.D.A.P.*,¹ *New York Times*, June 8, 1932; September 18, 1932.) The excavations in the caves of Wādī el-Mughārāh were renewed in October, 1932, again under the direction of Miss Garrod. The writer visited her camp on November 4, 1932, and is indebted to her for her kindness in showing him the excavations, and many interesting new discoveries which had already been made.²

¹ *Q.D.A.P.*, alone, indicates proof-sheets of *Quarterly of Department of Antiquities in Palestine*, generously put at the disposal of the writer by Mr. E. T. Richmond, Director of Antiquities in Palestine.

² In 1931, at the request of Miss Garrod, Mr. Turville-Petre excavated Mughāret el-Kebārāh, ten miles south of Wādī el-Mughārāh, near the colony of Zichron Jacob. She and Mr. T. D. McCown had made a sounding there previously, and had found the cave to contain promising material. Up to the present time five layers have been excavated:

* A. Recent.

B. Lower Natufian, corresponding to B² of Mughāret el-Wād.

C. A new microlithic industry, marked by the presence of long triangles.

D. Middle Aurignacian.

E. Lower Middle Aurignacian.

The underlying deposit, still unexcavated, appears to be Mousterian. The most interesting layer is

M. René Neuville, working on behalf of the Institut de Paléontologie Humaine of Paris, has recently discovered some remarkable prehistoric wall-pictures in the cave of Umm Qaṭafa, which is in the Wādī Khreitūn, southeast of Herodium (Frank Mountain), about seven miles south of Bethlehem. The wall-pictures discovered by M. Neuville are the first ever found in Palestine. M. Neuville had already excavated in the cave of Umm Qaṭafa in 1928. As a result of these investigations, a very rich industry of Acheulian flints was found, together with numerous animal remains of species which are now largely extinct. In September, 1932, M. Neuville discovered on one of the walls of the cave, above the level of the deposits previously examined, a series of animal pictures. With the assistance of his associates, Mme. Neuville, Rev. Fr. Duvignau, Mr. R. Ben-Dor, and Mr. M. Stekelis, these pictures were carefully studied. The simplest means had been employed by the prehistoric artists for the execution of these pictures. In one place the natural lines of the rock were adapted. In another the picture was cut into the rock, while in a third embossed figures were produced. In some places black paint was used. The animals are all on the same level, standing one behind the other. All of them face the entrance of the cave. Among the animals depicted are several elephants, a hippopotamus, a wild boar, a one-horned rhinoceros, several cervoid animals, and one of an indeterminate species. There was also the perfectly natural head of an ox carved in the rock. M. Neuville considers these pictures, because of their style and technical execution, to be connected with the artistic development that marks the end of Palaeolithic times. The development, he feels, which in western Europe reached its apogee in the Magdalenian period, seems to have been reached in Palestine by the Lower Natufian culture, the nature of which has been revealed through Miss Garrod's discoveries.

In July, 1932, M. Neuville, again on behalf of the Institut de Paléontologie Humaine of Paris, excavated in the Umm ez-Zuweitina cave, south

B, which yielded an extraordinary abundance of bone implements, including very delicate harpoons with a single row of barbs, and a remarkable series of four carvings of animal heads. Two of these are on the end of sickle-blade shafts, and the other two, although now broken short, must originally have had the same purpose. (*B.A. S.P.R.*, April, 1932, p. 11).

of Wādī Khreīṭūn. At the entrance of the cave a Lower Natufian hearth was found under a stratum of modern black earth. The principal find made in this hearth is a statuette of a cervoid animal made of grey limestone.¹

The excavation of the prehistoric caves in the Wādī Khreīṭūn and in its vicinity is shortly to be resumed by M. Neuville. The writer is indebted to M. Neuville for his kindness in placing at his disposal notes containing the information presented above. (Cf. *Q.D.A.P.; Illustrated London News*, November 5, 1932.)

Mr. M. Stekelis of Jerusalem has discovered a prehistoric station on the northwest side of Mt. Carmel, at a site called Ferš Iskander. On two separate occasions he found flints, which he assigns to the palaeolithic age. (*J.P.O.S.* XII: 3, p. 149.)

TELEILÂT EL-GHASSÛL

Under the direction of Père A. Mallon, Director of the Pontifical Biblical Institute in Jerusalem, the excavations at Teleilât el-Ghassûl, begun in 1929, were continued during the last campaign, which extended from November 29, 1931, to March 24, 1932. (Cf. *A.J.A.* XXXVI, 1932, 1, p. 70.) Teleilât el-Ghassûl lies in the center of the plains of Moab, roughly three and a half miles north of the Dead Sea, and three miles east of the Jordan. A merry battle is being waged among scholars as to the dating of the four levels excavated in previous campaigns, Père Mallon dating them between 2500-1900 B.C. (*P.E.F.Q.S.*, April, 1932, p. 72.)² A number of incised pebbles and stones, to which great importance had been attached previously, have now been found to be partly forgeries, according to Père Mallon. (*Biblica*, XIII, 3, 1932, p. 275.) The attention of the excavators, in the campaign brought to a close in March, 1932, was directed to Tell three of the Teleilât el-Ghassûl. On a brick wall, seven metres long, some remarkable wall-paintings were found, which Père Mallon dates at about 2000 B.C. The paintings had three layers of paint,

¹ The Natufian level in this cave yielded also most of the implements characteristic of this culture, i.e. a fragment of grooved bone haft with its sickle-blade still in position, two bone awls, microlithic crescents, sickle blades, end scrapers and core scrapers, angle graters, and a few Tardenoisian micro-gravers.

² For a date in the second half of the fourth millennium, cf. *B.A.S.O.R.*, No. 48, pp. 10-13.

one above the other, showing that they had been restored twice. The fresco is divided into three parts. On the left side, there is a long narrow wedge, painted red, which gives the appearance of being part of a large star. To the right of it are two yellow, icicle-like lines, which appear to represent sun-rays. To the right of these lines is a standing male figure facing to the right, painted in black. The upper half of this figure was no longer visible on the painting. In the second part of the picture two standing men, facing to the left, are depicted,—the upper halves of these figures also being no longer visible. These figures are painted red. Behind them, also facing towards the left, traces of five more figures can be recognized. Between all these persons the background is painted in white and yellow. The third part of the picture seems to contain bits of a wedge similar to that in the first part of the picture. Another painting found in Tell three depicted a figure in black, and a very life-like representation of a bird in black. (*Biblica*, XIII, 3, p. 288.) Eckhard Unger finds that these paintings give evidence of being strongly influenced by contemporary Egyptian art, of a period which well agrees with the 2500-1900 B.C. dating of the findings at Teleilât el-Ghassûl. Judging from the plan of Tell three, with its lack of streets and few houses and its remarkable long narrow rooms, in contrast to that of Tell one, whose plan clearly shows houses, streets and alleys, and in view of the definitely Egyptian character of the frescoes, which the bird also displays, Unger has come to the conclusion that the paintings are *Totenhausgemaelde* in a *Totenstadt*. Like similar cities in Egypt, he points out, this city of the dead lies to the west of the real city, and contains houses devoted to the *Totenkult*, which are adorned with pictures having reference to this cult of the dead. He feels that when the excavations are continued the graves will be found to which the houses belong. The excavations at Teleilât el-Ghassûl are shortly to be resumed. (*Biblica*, XIII, 3, 1932, pp. 273-292.) The writer wishes to thank Père Mallon for his courtesy in showing him all the finds of Teleilât el-Ghassûl, which are in the museum of the Pontifical Biblical Institute in Jerusalem.

MASADA

Professor A. Schulten, General Dr. Lammerer, and Dr. Borée have prepared an exact survey of the remains of the fortress and camps at Masada,

on the west coast of the Dead Sea, during a four weeks' stay in March, 1932. The results of the expedition will be published early in 1933 as a separate number of the *Zeitschrift des Deutschen Palästina-Vereins*. General Lammerer has also made a plan of the fortress of Bittir and the Roman circumvallation there. (*Q.D.A.P.*)

'ATHLÎT

The work of the Department of Antiquities at 'Athlît was continued during 1932. In the course of the excavations, during 1930-1931, on the site of the mediaeval seaport which lay under Pilgrims' Castle at 'Athlît evidence of a hitherto unrecognized Phoenician settlement has come to light, according to the admirable report of Mr. C. N. Johns, which is now available. Under a fort at the southeast corner of the land-wall, rock-hewn shaft graves of Phoenician type have been encountered, containing evidence of an occupation extending from the second phase of the Early Iron Age (c. 900 B.C.) down to the Hellenistic period. A few intact burials could be dated by Phoenician coins and other means to the latter half of the Persian period, the fifth and fourth centuries B.C. Their culture was complex, an eclectic combination of Greek, Egyptian, and Oriental elements such as Attic vases, Egyptian amulets, and scarabs in mixed style. (*Q.D.A.P.* II, 2-3, 1932, pp. 41 ff.)

TELL EL-'AJJÛL

The excavations at Tell el-'Ajjûl, the site of ancient Gaza, about four miles south of the modern city of Gaza, were continued during the early part of 1932, beginning in December, 1931, by Sir Flinders Petrie, on behalf of the British School of Archaeology in Egypt. In the process of excavations it has been found that the Tell was raised by successive builders twenty feet above the surface of the hillock on which the first settlement was founded. A series of palaces, built one above the other in successive ages, was found. They have been dated by Petrie to 3000 B.C., 2500 B.C., 2375 B.C., and 2100 B.C., respectively.¹ In the fourth palace the bones of a horse were found, which had been buried as a foundation sacrifice, apparently after the shoulders had been removed for eating. This palace, after it had been abandoned, was rebuilt on a higher level in the XVIIIth Dynasty.

¹ For a reduction of these dates to the standard chronology see *B.A.S.O.R.*, No. 48, p. 16.

On the plain below the Tell, to the west, a cemetery was found, in addition to that discovered in the previous season, which had been dated to about 3500 B.C. There were about fifty tombs, with square shafts leading to shallow chambers, and in half of them were copper daggers in perfect condition.

A remarkable deposit, dating perhaps a thousand years later, was found between the cemeteries. A great conflagration had taken place. Into the fire had been thrown two very fine basalt tripod stands, an alabaster vase, a slate dish, and a great quantity of gold and silver which had been melted by the fire. According to Petrie, it was neither a burial nor a hiding place, nor loot, but execution of vengeance on property, which had to be destroyed for the common good. Some man had brought ill-fortune to the community, and all his possessions were accursed, and were ruthlessly destroyed. This expurgation seems then to have been a Palestinian custom, which was adopted later by the Israelites. The parallel to the story of Achan in Joshua 7 is cited by Petrie.

Work was also done during the early 1932 season in order to determine the character of the ancient defences of Tell el-'Ajjûl. The Tell was protected on the southwest by the Wâdî Ghâzzeh. Around the remaining three sides a great ditch had been dug in ancient times, and the earth thrown up on the face of the Tell. An enclosed fortification, to which the tunnel discovered last season led, has been discovered about five hundred feet from the gateway. There are several other outer fortifications, protecting the city, which require further excavation. (*Ancient Egypt*, March, 1932, pp. 1-12; June, 1932, pp. 41-46; *A.J.A.* XXXVI, 3, 1932, p. 337.)

TELL BEIT MIRSIM

For the fourth joint campaign of the Pittsburgh-Xenia Theological Seminary and the American School of Oriental Research, Jerusalem, under the direction of Professors M. G. Kyle and W. F. Albright, see the full account *A.J.A.* XXXVI, pp. 556-564, abstracted from the preliminary report in *B.A.S.O.R.*, No. 47, pp. 3-17.

JEWISH TOMBS

Dr. E. L. Sukenik of the Hebrew University, Jerusalem, has continued his study of Jewish ossuaries of the early Christian era. He has a book in preparation on the subject, the appearance of

which is eagerly awaited by all those interested in Palestinian archaeology. Ossuaries are constantly being found in Jerusalem and in its vicinity, and on many of them names are found, which are gradually filling in the historical picture of the period, apart from their epigraphic importance.

Although tombs containing ossuaries have been found frequently in and around Jerusalem, it seems that the entire country also abounds with them. The rocky nature of most of the Palestinian terrain limited and limits the number of feasible burial places. Such tombs as were laboriously dug had occasionally to be emptied of old bones in order to make room for new burials. The bones thus removed were placed in small stone chests, which were usually decorated, and often inscribed, and which are now turning up in such numbers all over Palestine.

In a cave near 'Isawtyah, a village northeast of Jerusalem, on the way to Anathoth, Dr. Sukenik found thirteen ossuaries. One ossuary rests on four small feet. The front is divided into two fields by means of three ornamented double bands, each adorned by a multi-petalled rosette. A Hebrew inscription is engraved on the back, reading *Yehôhânân*. Another one bears an Aramaic inscription, reading *Shâlôm, Daughter of Yehôhânân*. The name *Shâlôm* is repeated once more on the edge of the lid, but without any mention of the father's name. To the right of the inscription on the narrow side are four letters, the meaning of which is obscure. On one ossuary, found in a cave near the war-cemetery in Jerusalem, was found inscribed MAPΘAC. Traces of letters written with charcoal were found on another ossuary. One ossuary had the name of *Simeon bar Tôm* and a small drawing representing an altar incised on it. Another had incised on it the name of *Grida*, and a decoration consisting of two rosetted circles, between which rising from steps is a column, surmounted by a rosette.

Dr. Sukenik has also examined a cave containing ossuaries on a piece of land in the Wâdi en-Nâr, about half an hour by foot east of Jerusalem. The tomb-cave consists of an open court looking eastward, hewn into the rock. The center of the western wall of the entrance court shows a spacious opening, by means of which the antechamber is reached. This antechamber leads into a room, which opens on three sides into smaller chambers with *masjabs* hewn out of the rock.

One of the ossuaries found bears a Hebrew inscription in one line, which reads *Mattiah*. Another ossuary has the name in Hebrew of *Shôbai bar Yehôsef*. A third ossuary bears an inscription, which Dr. Sukenik transcribes as *Theophile*,—which name is twice repeated. (*J.P.O.S.* XII: 1-2, 1932, pp. 22-31.)

In one of two tombs discovered southwest of the Jewish colony of Hedera, a lead coffin was found. One side is decorated with an arch, which rests on two twisted columns. Under the arch stands a naked boy, who holds a serpent in his right hand, and a bunch of grapes in his left. Fragments of Roman ribbed pottery were found in both tombs, which have been assigned to the second or third centuries A.D. (*Q.D.A.P.*)

The soil of Jerusalem fairly teems with tombs of various kinds. In April, 1932, a tomb group was discovered in the garden of the American School of Oriental Research in Jerusalem, and partly cleared by Professor Millar Burrows, then Director of the School. The portion uncovered is of an irregular shape, consisting of three rooms side by side. In some places the plaster covering is still well preserved. All the rooms were filled with stones, having so little dirt with them that they appear to have been thrown in deliberately. Bones of fully one hundred skeletons, badly broken and disordered, were found. The predominating types of pottery were found to belong to the fifth or sixth centuries A.D., in agreement with the coins found. Two were from the reign of Anastasius (490-518 A.D.), and one from the time of Julian the Apostate (361-363 A.D.). Some earlier coins were found outside the tombs. Two complete glass vases and two clay lamps were found. A Greek inscription on one of the lamps is a faulty writing of *τῆς θεοτόκου*, according to Professor Burrows. (*B.A.S.O.R.*, No. 47, pp. 28-35.)

During the month of October, 1932, the Department of Antiquities excavated on the new Sports Grounds of the Y. M. C. A. a number of tombs, and a part of a building discovered during building operations by the contractors. The tombs were of two distinct periods, (a) of the second and third centuries A.D., and (b) of the sixth and seventh centuries A.D., to judge from the Byzantine coins and one or two Cufic coins which they yielded. The former group contained several lead and one wooden sarcophagus, along with a number of gold ornaments, and was evidently the burial place of a moderately wealthy family. The latter group from its arrangement

and the absence of any contents of value was probably the cemetery of a monastery.

In addition to the tombs the Department cleared one end of an extensive building of which the greater portion lies beyond the Y. M. C. A. grounds to the west, and still awaits investigation. The part cleared included mosaic floors and a courtyard, a cistern, a plastered rectangular ceremonial bath sunk below ground level, with a cross on the wall at one end, and a mosaic floor, all enclosed within walls of roughly worked stones mixed with rubble. This may be the monastery to which the second group of tombs described above belongs. A sixth-seventh century A.D. date would be fully in accordance with the coarseness of its mosaic floors and the rough character of its walls.

Of isolated finds the most interesting is a Greek tomb inscription, apparently dating to the fourth-sixth centuries A.D., mentioning a "bishop of the Georgians (ΙΒΕΡΩΝ) and his monastery," and referring to the memorial or tombstone as having been purchased (ΗΓΟΡΑΚΑΝ) in the Tower of David. The name of the bishop was on a missing portion of the stone. It is known that a Georgian monastery existed in this neighborhood about the fifth century A.D., but the significance of the mention of the Tower of David here is not quite clear. The inscription will shortly be published in the *Quarterly of the Department of Antiquities*. The writer is indebted to Mr. E. T. Richmond, Director of the Department of Antiquities in Palestine, and to Mr. J. H. Iliffe, Curator of the Museum, for the above note on the excavations here. It is a pleasure to record the constant courtesy and helpfulness shown by Mr. Richmond and his associates, Dr. Mayer, Mr. Iliffe and Mr. Hamilton.

Mention should be made of the tomb in Tal-tyeh, a suburb of Jerusalem, which was examined by the Dominican Fathers, Père F. M. Abel and Père A. Barrois, in 1931, and which has not been previously noted in the reviews of Palestinian archaeology appearing in this JOURNAL. The tomb examined by the Dominican Fathers was found to be completely empty. Because of various architectural features, particularly its excellent vault and lateral niche, they judged it to be a Jewish sepulchre of the Roman period. (*R.B.* 1931, pp. 295-297; *Q.D.A.P.* II, 1932, No. 2, p. 235.)

JERICHO

Beginning at the end of December, 1931, Professor J. Garstang undertook his third cam-

paign at the site of ancient Jericho, under the auspices of Sir Charles Marston, Mr. Davies Bryan, the University of Liverpool, the Leeds Philosophical and Literary Society, and the Louvre Museum. The most important finds of the 1932 season were those made in about twenty-five Bronze Age tombs, located in unbroken ground, some 400 yards westward from the city mound. The tombs, which proved to be practically intact, yielded eighteen hundred registered objects, mostly pottery vases, some fifteen hundred of which were in good condition, and several hundred without a flaw. According to the excavator the deposits cover the whole range of the Bronze Age, down to 1400 B.C. A number of scarabs belonging to the Middle and Late Bronze Ages were found, according to Professor Garstang. He also dug trenches here and there, in order to trace the line of the protecting wall of the Early Bronze Age. More details must await the publication of a further report by Professor Garstang, outside of newspaper articles, which were not accessible to the writer. (*P.E.F.Q.S.*, July, 1932, pp. 149-153.) Professor Garstang has come to the conclusion that Jericho was finally destroyed about 1400 B.C., a date which harmonizes with his understanding of the Biblical sources. He has subsequently stated that there was a partial re-occupation in the second half of the Late Bronze Age, that is, from 1400-1230 B.C. (*R.B.* 41, 2, 1932, p. 270; *P.E.F.Q.S.*, April, 1931, p. 106.) The excavations at Jericho have thus far not sufficiently illuminated the history of that important site. Extensive stratigraphical excavations there will be welcomed, especially in view of Professor Garstang's interesting theory that the pottery of Jericho may not have undergone the same development as pottery from other excavated sites in Palestine, because in a "relatively remote and isolated spot like Jericho . . . a certain 'lag' is . . . to be anticipated." (*Annals of Archaeology and Anthropology*, XIX: 1-2, 1932, p. 7.)

Professor Albright, who has examined thousands of sherds placed at his disposal by Professor Garstang, has failed to find any characteristic Late Bronze sherds among them, and according to him "such areas as have been excavated inside the town in 1929-1932 show clearly that the latest occupation in these spots before the Iron Age must be assigned to the end of the Middle Bronze, i.e. before the age of Tuthmosis III at Beth-shan and the C¹ period of Tell Beit Mirsim." (*J.P.*

O.S. XII, 4, 1932, pp. 257-8.) Père Vincent¹ has seen sherds, which he feels able to date down to the end of the Late Bronze period, according to him, to about 1250 B.C. (*R.B.*, April, 1932, pp. 264-276.)

TELL EN-NASBEH

The Tell en-Nasbeh expedition of the Pacific School of Religion, Berkeley, California, under the direction of Prof. W. F. Badè, cleared and mapped the remaining sections of the inner and outer city walls, during the 1932 season. Professor Badè and others have identified Tell en-Nasbeh, near Ramallah, north of Jerusalem, with the biblical city of Mizpah. In two places the main wall had not been carried to bed-rock, but had been built over debris containing large numbers of Early Iron potsherds, which demonstrated that this wall was not built earlier than about 900 B.C. According to the evidence found, as interpreted by Badè, the wall was destroyed about 701 B.C. The city was rebuilt after this period, but not the wall, for later houses were built over the top of the wall. A burned level, dated among other things by a silver coin of Alexander Balas, showed that the last general destruction took place about the time of the Maccabees. An outstanding find of the season was the exposing of the principal city-gate, which was found on the east side of the city. Badè has come to the conclusion that the gate was destroyed by Sennacherib in 701 B.C. The gate was uncommonly well preserved, and is the finest of this age thus far found in Palestine. The entrance to the gate measured four metres in width. The stone door sockets were still in place, and inside the gate were interesting stone benches.

The principal individual find of the 1932 campaign was a beautifully made agate seal bearing the inscription in ancient Hebrew characters, "Belonging to Jaazaniah, servant of the king." Underneath the inscription stands a cock with

¹ Père Vincent finds that there have been five different periods in the development of the ancient site of Jericho:

- A. 2300-2100 B.C.
- B. 2100-1900 B.C.
- C. 1900-1600 B.C.
- D. 1600-1250 B.C.

E. 870-600 B.C., there being a hiatus of four centuries between D. and E. The last city was restored in the reign of Ahab. (*R.B.*, April, 1932, pp. 267-8.)

long spurs on his legs. According to Professor Badè, this Jaazaniah is the one mentioned in the Bible (II Kings 25: 23; Jer. 40: 8), who came to Mizpah after the destruction of Jerusalem. It was found with fragments of Iron Age pottery in the central pit of an original Iron Age tomb, which had been reused and enlarged during the Roman and Byzantine periods. Other Iron Age tombs of the west necropolis were found to have been similarly remodelled and reused. Seven scarabs were found in one tomb, all of which bear the cartouche of Tuthmosis III. At least three of the tombs found belong entirely to the Bronze Age. One late Roman and Byzantine tomb produced a lamp with the Greek inscription, "The Martyrs Stephen (and) Paul." The writer is indebted to Professor Badè for showing him the excavations, and for sending him a short account of the work accomplished during the 1932 season. (*New York Times*, August 12, 1932; *A.J.A.*, XXXVI, p. 337; *P.E.F.Q.S.*, July, 1932, p. 112, October, 1932, p. 204; *Q.D.A.P.*)

SEILÛN

The excavations at Shiloh, known today as Seilûn, which were begun in 1926 and continued in 1929, began again in the fall of 1932 under the direction of Mr. Hans Kjaer, Deputy Keeper of the National Museum, Copenhagen, assisted by Dr. Aage Schmidt of Copenhagen. The 1932 campaign was cut short after its first month by the sudden death of Inspector Kjaer on September 29th. His death may be ascribed to the rigors of camp life. He permitted himself no rest and worked feverishly, but with a meticulous carefulness and exactitude which deserve emulation. His loss is deeply felt by those who came in contact with him, and by the entire scholarly world. The excavations may be resumed this coming spring. The writer, who, together with Dr. Schmidt, was asked to take charge and wind up the affairs of the 1932 Shiloh expedition, has examined some of the pottery found by the north-west wall of the ancient city. The principal efforts during the month's campaign were confined to this wall. The pottery examined belonged mainly to the Middle Bronze Age, corresponding to the E-D level pottery of Tell Beit Mirsim. There were some Early Bronze sherds, and a fair amount of Late Bronze sherds among those examined, but the majority of them belonged to the eighteenth-seventeenth centuries B.C. This opinion has been concurred in by Père

Vincent and Dr. Clarence S. Fisher. Two scarabs found with the sherds of the Middle Bronze have been identified by Mr. Alan Rowe as Hyksos scarabs. Found near the surface of the ground, by the Bronze Age wall was a scarab reading "Amen-Rê, *h3, nfr*," which Mr. Rowe has dated to the late XVIIIth or XIXth Dynasty. With it was found a Mycenaean sherd, according to Dr. Schmidt. A fuller report must await the examination of the rest of the pottery, and particularly the publication of the notes made by Inspector Kjaer. From the previous campaign in 1929 it had already been determined that the Israelite town was destroyed about 1050 B.C., after which the site lay practically deserted till the Hellenistic period. (*J.P.O.S.* X, 2-3, 1930, p. 109.)

SEBASTIYEH

The joint expedition of Harvard University, the Hebrew University, the British School of Archaeology in Jerusalem, and the Palestine Exploration Fund under the direction of Professor J. W. Crowfoot, with whom were associated Dr. E. L. Sukenik of the Hebrew University, and Professors K. Lake and R. P. Blake of Harvard, engaged in the spring of 1932 in another very successful campaign at Sebastiyeh (Samaria).

The excavations at Samaria carried on in the spring campaign have thrown much new light on the wonderful fortifications of the Israelite period. The line of the south wall of the palace enclosure was traced for another hundred and fifty metres, and its massive character and unique construction was much more clearly revealed. Three early capitals of proto-Ionic type were found close by it. On the north side some casemates were cleared similar to those which had been excavated on the west side. The walls found in these last campaigns, together with those excavated by Harvard University before the war, show the high degree of material civilization and wealth attained by the Israelite kingdom in the days of Omri and Ahab. The remains of the palace buildings as well as those of the city walls stand out owing to their careful planning and execution, and have hardly any equal among the ancient monuments of the same period hitherto discovered in Palestine. Parts of the walls of one of the Solomonic buildings in Megiddo are of much the same workmanship, and testify, as do those of Samaria, in all probability to Phoenician craftsmanship. The spring expedition in 1932 was

fortunate in making one of the most remarkable finds ever recorded in Palestinian archaeology—a series of exquisitely carved ivories. The stratum in which the ivories were discovered was full of Israelite potsherds of the eighth and ninth centuries. Among the ivories are the figures of two crouching lions of exquisite workmanship, and a number of small panels in relief. Some of these panels are decorated with figures derived from the Egyptian pantheon, among them Rê, the sun-god, holding a figure of Ma'at, the goddess of truth, the infant Horus, Isis and Nephthys, and Hah, the personification of eternity, with the emblem signifying "thousands of years." On the same panels, however, are patterns and details which suggest that the craftsman was not an Egyptian. Another panel in pierced relief which represents a bull being mauled by a lion is more reminiscent of Mesopotamian or Anatolian work, as are two others which represent winged cherubim. Other panels have decorative patterns, bands of lotus flowers and buds, and complicated designs of the sacred tree type. There are traces of gold foil and blue inlay on some panels. A large number of the fragments show traces of burning. Lumps of charcoal were found scattered among them, probably the remains of wooden furniture which was inlaid with these ivory pieces. The passages in the Bible mentioning "house of ivory," I Kings 22:39, and "beds of ivory," Amos 6:4, possibly refer to palaces of Omri and Ahab, in the rooms of which the furniture was decorated with ivory inlay. The Samarian ivories bear a striking resemblance to a series of ivories, which were discovered in 1928 in Arslân Tâsh, near Carchemish, by a French expedition under the direction of M. Thureau-Dangin. The writer recently examined the Arslân Tâsh ivories, which are now on exhibition in the museum at Aleppo. Two ostraca with Hebrew inscriptions of some length were also found at Samaria in the 1932 season. (*P.E.F.Q.S.*, April, 1932, pp. 63-70; July, 1932, pp. 132-133; *New York Times*, August 12, 1932.)

Excavations were also made at the northeast corner of the forecourt of Herod's Augusteum. A great artificial platform was carried out on massive retaining walls, which extended more than twenty metres beyond the original edge of the summit, and the natural configuration of the hill was completely changed.

On the northeast of the site some interesting discoveries were made by a series of soundings

in the so-called Hippodrome. It was proved that the Corinthian colonnades, which still show above ground, belong to a late Roman structure, which was built over the remains of an earlier Doric colonnade that may belong to the Herodian period. In both periods the whole structure, which probably included a palaestra and a stadium over two hundred yards long, was placed under the protection of Korê. A fine statue of the goddess, holding a flaming torch in one hand and a pomegranate and ears of corn in the other, was found, dating from the third century A.D., besides some inscriptions and graffiti connected with her worship. The most striking of them was painted in red Greek letters on a marble fragment—the confession of faith of a monotheist still faithful to the old cult. It reads: "God is One, the Lord of all: Great is Korê, the Unconquered."

The clearance of the church on the south side of the hill, which was begun in 1931, was completed in 1932. The church is that described by John Phocas in 1185 A.D. According to his Greek informers, to whom it then belonged, the church marked the place of the First Invention of the Head of St. John the Baptist, who was supposed by local legend to have been martyred in Samaria. A picture of the Invention of the Head was found on the wall of a crypt under the northeast corner of the church. (*Twelfth Annual Report, 1931-32, of the British School of Archaeology in Jerusalem*, pp. 5-6, 12-14.)

BEISÂN

Occupying a commanding site in northern Palestine at the eastern end of the Plain of Esdraelon, shortly before it merges with the Jordan Valley, lies an ancient mound of imposing dimensions known as Tell el-Huşn. It is the biblical Beth-shan, a name which is perpetuated in the name of the modern village of Beisân. The mound represents the walled area of the Canaanite city, and the acropolis of the Hellenistic city of Scythopolis, the successor of Beth-shan. The bare hill of rock upon which it is built has from earliest times dominated the Jordan end of the great highway which, following the length of the Jezreel Valley, connected the Mediterranean coast and Egypt with Mesopotamia. The ninth season of excavation at Beth-shan on behalf of the Museum of the University of Pennsylvania was carried on during the last four months of 1931 by Mr. G. M. FitzGerald. Some information which was not available for the 1931 report in this

Journal may now be given. At the northwest of the summit of the Tell some Early Iron buildings were exposed, including the remains of a gate-tower. The walls of the gateway were constructed of limestone masonry, whereas the other buildings of the same level were of mud brick. The limestone masonry resembles that of the Israelite walls at Samaria. On this same level two temples adorned with stelae of Seti I and Ramesses II, and a statue of Ramesses III, had previously been excavated.

On the level of Seti I, below that of the gate-tower, a large building was uncovered, commanding the main approach to the summit of the hill. At the western entrance of the central hall of this building a part of a door jamb with a hieroglyphic inscription was found. The inscription mentions the city of Heliopolis, and is probably part of an invocation to the sun god. A small glass plaque decorated in relief with figures in the Babylonian style was found in this level. In the center stands a bearded deity, wearing a horned head dress, a worshipper is approaching him on his left, and between them a kid or a gazelle is standing on its hind legs. In a lower level in the southwestern area of the Tell pure Middle Bronze sherds were found. The foundations of this level may go back to about 1900 B.C.

The tombs cleared in the cemetery opposite the Tell, on the north side of the river Jālûd, were mainly of the "loculus type" of the Roman period. One circular tomb of the Early Bronze Age was found in good condition, containing a globular ledge-handled jar and a bronze dagger of the ribbed "Cypriote" type, quite unlike the later forms found on the Tell. Most of the "loculus" tombs had been pillaged by tomb-robbers, but from two of them fine collections of glass were obtained, together with numerous gold earrings and lamps, and ivory pins, of which several had carved heads, one of them representing a helmeted warrior, and another carved in the form of a hand. To the east of the cemetery a mosaic pavement was found, containing a portion of a Greek inscription, which evidently refers to the foundation of a Byzantine monastery by a certain abbot. (*P.E.F.Q.S.*, July, 1932, pp. 138-148; *A.J.A.*, XXXVI, 3, 1932, p. 336.)

MEGIDDO

Excavations in the fall of 1932 at Megiddo, on behalf of the Oriental Institute of the University

of Chicago, were carried out on the east slope, where a large area was excavated to bed-rock to provide more dumping space for debris, and in the southern, central, and southwestern portions of the mound. A considerable number of the shaft-type tombs were found on the east slope, which were originally cut out and used toward the end of Bronze I. Remains of pottery of that period were found in most of them.

Most of the shaft tombs had been reused between 1600 and 1200 B.C., scarabs of the Hyksos type and of Ramesses II giving approximately the upper and lower limits of dating. Although they had apparently been looted for gold in antiquity, they contained a wealth of fine pottery, much of it decorated, and numerous weapons and utensils of bronze in very good condition. The finest piece of pottery was the "Megiddo Vase," which has a painted decoration of geometric patterns as well as a design of goats and birds on either side of a palm-tree, and a lifelike crab. Cypriote pottery was common in these latter burials.

Not far from the shaft tombs were three superposed strata of houses. The latest of these contained hand-made pottery of a type dated to the latter part of Bronze I. The middle stratum, though necessarily earlier, was not dissimilar, but the lower was different and better. The houses were partly cut out of the rock and partly built of stone, walls being in some cases almost a meter thick and being composed of stones of all sizes from small pieces not much bigger than the fist to blocks weighing several hundred pounds. Much of the pottery from this stratum has hitherto been described as Bronze I, but some so far undiscovered types occurred with it. Only two copper articles—a bead and a needle—were found, and the latter was probably intrusive. Fine flint implements were numerous, with flakes indicating the presence of a factory. Almost all the rooms of this early date had "cup-marks" in their floors, and the use to which these had been put was clearly apparent. Ashes were plentiful in most of them, some contained bones, and one had a couple of cooking pots in it. There was no reason whatever to suppose that they had any religious significance, and they seem to be nothing more than kitchen fireplaces. They are thus better described as "pot-holes" than as "cup-marks."

On the mound itself the clearance of the great water system has been completed. Electric light

has been installed, and access is now easy, by the shaft (37 meters deep), to the tunnel (50 meters long), and to the cave and springs at the end of the latter. Finally, remains of late buildings of various dates have been removed over an area of several acres, revealing an orderly plan, with four parallel streets.

The writer is indebted to Mr. Guy for his kindness in showing him and the members of the American School the excavations at Megiddo, and sending him a brief statement about the most recent excavations.

'EIN ET-ṬĀBIGHAH

The expedition of the Oriental Institute of the Görres-Gesellschaft, directed by Dr. A. E. Mader, has excavated a basilica, situated on the western shore of Lake Tiberias, between Tiberias and Tell Hûm, a few metres southwest of the "Seven Springs (Heptapegon)," now 'Ein et-Ṭābigah. The basilica has three naves and is oriented to the east. The central transept has an extensive mosaic floor, with a fine cross pattern. The mosaic pavements of the north and south transepts are adorned with pictorial representations of such beauty that they are not equalled by other Palestinian church mosaics. Oleander bushes, rushes, lotus and papyrus plants are woven in against a light background. Between them are depicted ducks, geese, storks, peacocks, herons, and flamingos, nibbling at blossoms or chasing snakes. Smaller birds are seen balancing themselves on branches of trees or preening their feathers. Particularly attractive is a pair of birds, sitting in a large lotus blossom, and caressing each other with their beaks. In the midst of all the colorful flora and fauna, various buildings (a tower, a castle-gate, and a round temple) have been placed. The composition and use of green and blue colors, among other considerations, suggest, according to the excavators, that the mosaics and therefore also the church structure should be assigned to the middle of the fourth century A.D. These excavations took place in February and March, 1932 (*Biblica*, XIII, 3, 1932, pp. 293-295; *Q.D.A.P.*)

KHIRBET MINYEH

In March, 1932, Dr. Mader, again in behalf of the Oriental Institute of the Görres-Gesellschaft, Jerusalem, excavated at Khirbet Minyeh, between Tiberias and Tell Hûm. The excavations brought to light the remains of a Roman fort of

square form, measuring seventy square metres on a side, with nine round towers, each about four metres in diameter. Several construction periods could be distinguished. The plan and technique of the building are similar to those of the Roman forts of the Limes Arabicus in Transjordan, which was established by Trajan and Hadrian between 98 and 138 A.D. (*Biblica*, XIII, 3, 1932, pp. 295-296; *Q.D.A.P.*)

TELL EL-'OREIMEH

Dr. Mader, with his associates, also examined Tell el-'Oreimeh again in 1932. Fourteen soundings were made on this Tell, which is situated in the northwestern corner of Lake Tiberias. Additional parts of the old Canaanitish city-wall were laid bare, and a quantity of sherds were recovered. Only three of them belonged to Early Iron I, sixty per cent to Late Bronze, and thirty per cent were Roman, the others being indeterminable. Tell el-'Oreimeh has been identified by Dalman, Albright, and others, as Chinnereth. (*Biblica*, XIII, 3, 1932, pp. 297-304; *Journal of Egyptian Archaeology*, XIV, pp. 281-7; Dalman, *Hundert deutsche Fliegerbilder aus Palästina*, p. 62.)

EL-ḤAMMEH

In November, 1932, brief soundings were made at el-Ḥammeh on behalf of the American School of Oriental Research by Drs. Nelson Glueck and C. S. Fisher. El-Ḥammeh is situated in the Yarmūk Valley, at the point where the frontiers of Palestine, Transjordan, and Syria converge. All of the soundings, with the exception of one, revealed only Byzantine sherds and marble facings, a few Roman sherds, and a Roman bowl,—the latter found near the surface. In one sounding, however, immediately above the area on the northeastern slope of the mound, where Early Bronze and early Middle Bronze Age sherds had been picked up, a rich pocket of very interesting sherds from these periods was found. Dr. Albright, who had previously picked up such sherds at Tell el-Ḥammeh, has pointed out their similarity to sherds gathered by him at Beth-yerah, which are now stored in the American School of Oriental Research. A few of the sherds found in this pocket may belong to the end of the Middle Bronze Age, but none were found which could be assigned to the Late Bronze Age. This fact confirms the opinion of Dr. Albright that the identification proposed between Tell el-Ḥammeh and the Egyptian Ḥammat of the thir-

teenth century B.C. is impossible. (*A.A.S.O.R.* VI, p. 42.) A number of the earliest type of ledge-handles were found. Most of the sherds of the early periods belonged to large flat-bottomed storage jars, and were decorated with "band-slip," consisting of parallel, vertical, diagonal, and latticed bands of brown, red, or orange slips. Fragments of large, very shallow bowls were found, the outer surface being covered with a rich haematite slip, continuously burnished. No traces of house-walls or city-walls of the early periods were found. The entire Early and Middle Bronze Age levels had either been completely destroyed and dumped into the Yarmūk river below the southern side of the mound, with some sherds thrown on the northeastern side, or the settlements in these early periods may have been limited to a small guard-post on the northeastern side of the mound. Such a post was probably established and maintained in the successive phases of the early periods for the protection of visitors to the hot springs, who perhaps came largely from Beth-yerah on the Sea of Galilee, which lies only about six miles away in a straight line, as Albright points out (*loc. cit.*). The only settlement which covers the top of the mound is a small Byzantine one.

MĪNET EL-BEIDĀ AND RĀS EŠ-ŠAMRAH

The remarkable excavations of Mīnet el-Beidā and Rās eš-Šamrah on the coast of northern Syria were continued in the spring of 1932. The shore-lines of the ancient harbor have been traced and show that it was larger than the present bay. In the necropolis of Mīnet el-Beidā great beehive tombs were discovered, filled with objects from Cyprus, Rhodes, and Mycenaean Greece. The necropolis was also a cult-place, where curious rites were practiced, designed to render the earth fertile and to combat the droughts so feared in the Orient. There were special constructions for the reception of offerings and for magical practices, which are referred to in a cuneiform text found in the library of Rās eš-Šamrah. On the acropolis of the Tell the remains of two cities were found, which have been dated respectively to the fourteenth-thirteenth centuries B.C., and to the twentieth-eighteenth centuries B.C. The ruins of a third city were also found, its walls made of brick, dating back to before the second millennium B.C. In the library of Rās eš-Šamrah several new cuneiform tablets were found.

The principal discoveries of the season were

made at the entrance of the great temple. Fragments of several Egyptian sculptures were found, one of which represents an anthropoid sphinx, on which is an inscription dedicated to Amenemhet III of the XIIth Dynasty, 1849-1801 B.C. A remarkable limestone stele was found, depicting a warrior divinity, holding a lance, at the point of which is a bolt of lightning. Costume and insignia are of mixed Egyptian, Syrian and Anatolian origin. In front of the goddess on a pedestal is represented one of the kings of Râs eš-Šamrah. Not far from this stele, two fine statuettes made of heavy gold were found. (*Man*, Vol. XXXII, December, 1932, pp. 284-285.)

The work at Ḥamā, the ancient Hamath, on the Orontes, is being continued by Professor Harold Ingholt of the American University of Beirut. The work is being done most systematically and carefully, and a good deal of attention is being paid to the pottery finds. An important series of Arabic pottery has been discovered.

The Belgian expedition at Apamea, Qal'at el-Mudîq, north of Ḥamā, has continued the study of the great colonnade there, which it has succeeded in dating to the epoch of Marcus Aurelius. The work at Jebeil (ancient Gebal or Byblos) has been continued by M. Maurice Dunand. A foundation deposit going back to the XIIth Dynasty has been found. In it were three axes made of heavy gold, a golden dagger, a carved sheath, a silver axe, and several bronze statuettes.

A very successful campaign was conducted at Antioch by an expedition representing Princeton University, the University of Pennsylvania Museum, and the Louvre. Professor Elderkin of Princeton and Professor Clarence S. Fisher of the American School of Oriental Research, Jerusalem, headed the expedition. The expedition has uncovered an important part of the hippodrome, and has exposed a large and elaborate Roman bathhouse. The most remarkable find was a large mosaic floor, six by eight metres, dating from about 100 A.D. It deals with the Judgment of Paris, and is artistically unequalled among mosaic floors hitherto known from this region.

The Service des Antiquités of Syria has been continuing its work of conserving and restoring architectural monuments. The funerary monument found at Hermel has been restored, and a photograph of it is to be published in one of the next numbers of *Syria*. The work of preserving the magnificent ruins of Baalbek is proceeding apace. The restoration of the six columns of the

temple of Jupiter is practically completed. The Circular Temple is being taken down stone by stone, to be restored after its foundations have been repaired. The Christian basilica of Theodosius, poorly built, and containing fragments of pillars and capitals of previous structures in its foundations, is being demolished in order to restore the great court of the temple of Jupiter to its original proportions. In the process of this demolition a number of Latin inscriptions has been found.

In Palmyra progress has been made with the restoration of the monumental gate of the peristyle of the temple of Bēl, and with the restoration of the temple of Baalshamēn. A monumental altar and a large basin for lustrations have been discovered in the court of the sanctuary of Bēl. An inscription was found commemorating the dedication of the temple of Bēl on April 6, 32 A.D. Several other important inscriptions were found, as well as some two-faced bas reliefs, dealing with mythological subjects.

The Yale University expedition under the direction of Professor Clark Hopkins has made some interesting discoveries at Dura-Europus. Of the utmost importance is the finding of a Christian chapel of the first half of the third century. In this chapel were found some frescoes of mediocre artistry, but of singular interest. There were depicted the figures of David, Goliath, Rebecca, and the scene of Jesus healing the paralytic, who is pictured first lying on his bed, and then carrying it after he had been healed. Among other scenes represented are those of Jesus walking on the water, the three Marys followed by other women, and various traditions recorded only in the gospel of St. Matthew. A limestone bas relief of the god Aphald, standing on winged lions, and receiving a sacrifice from a priest, was found. From a room in the temple of Artemis-Azzanathcona a number of papyri were recovered,—the first to be found in Syria or Mesopotamia. Some of them are records of the Roman garrison stationed at Dura. In this temple there was also discovered a bas relief, depicting a goddess, who resembles Atargatis, receiving a crown from some personage. (*Illustrated London News*, July 9, 1932, pp. 34-36; *Syria*, Vol. XIII, 2, 1932, p. 223.)

The new museum at Aleppo under the direction of M. Ploix de Rotrou, to whom the writer is indebted for his kindness in showing him the various acquisitions of the museums, especially the ivories of Arslân Tâsh, is bound to be of great

help to Syrian archaeology. A new museum has also been established at Antioch under the direction of Monsieur Prost. The expedition buildings of the University of Chicago are practically completed now, and work will commence soon at Tell ej-Judeideh and Tshetel Hüyük, northeast of Antioch, for the excavation of which the Oriental Institute has received a permit.

For most of the material presented in this report on the excavations carried on in Syria during 1932, the writer is indebted to the kindness of Monsieur H. Seyrig, Director of the Service des Antiquités in Syria, who has most graciously supplied him with notes.

PRESENT AND FUTURE EXCAVATIONS

Excavations are now being carried on, or have just been completed, at Wâdi Mughârah, 'Athlît, Megiddo, Tell ed-Duweir near Beit Jibrin, and Tell Abu Hawwam near Haifa. Others are to be instituted or continued in the very near future at Jericho, Teleilat Ghassûl, Tell 'Ajjûl, Shechem, the prehistoric caves in the Wâdi Khreitûn, and in the spring at Samaria, Shiloh, and Jerash. In Syria new or continued excavations are planned for at Râs eš-Šamrah, Byblos, Ĥamâ, Palmyra, Baalbek, Antioch, Dura-Europus, Tell ej-Judeideh and Tshetel Hüyük.

Practically all of the great western nations through their universities and research societies and religious organizations are engaged in research in Palestine. The United States of America and Canada are represented through the permanent

institution of the American School of Oriental Research in Jerusalem, which is again to be headed by Professor W. F. Albright, who has contributed so much to its development. The Oriental Institute of the University of Chicago is engaged in an immense scheme to examine the history of civilization in the Near East. It has extended its sphere of activity from Egypt through Palestine and Syria to Asia Minor, Mesopotamia, and Persia. The new museum in Jerusalem which is being built with the munificent gift of John D. Rockefeller, Jr., is rapidly nearing completion, and will provide a fitting home for the antiquities discovered in Palestine. Among the American institutions, besides those already mentioned, which are vitally interested in Palestinian archaeology are Harvard, Yale, Michigan, the University of Pennsylvania Museum, and the Xenia-Pittsburgh Theological Seminary, Haverford College, the Presbyterian Theological Seminary, and the Pacific School of Religion. The permanent British, French, and German Schools of Archaeology in Palestine, and the archaeological department of the Hebrew University make constant contributions to Palestinian archaeology. A remarkable spirit of harmony and coöperation prevails among the institutions and scholars engaged in archaeological research in Palestine. The work of investigation in Palestine, and in the countries which bordered and influenced it, has only begun.

NELSON GLUECK

December 26, 1932

BOOK REVIEWS

THE SEALAND OF ARABIA (Yale Oriental Series, Researches, Vol. XIX), by *Raymond Philip Dougherty*. Pp. xii+203. New Haven, 1932, Yale University Press. \$3.00.

In the earlier days of Assyriological and cognate studies the interest of scholars centered chiefly on the culture lands of Babylonia and Assyria. The task of interpreting the epigraphic and archaeological remains was too absorbing to admit of expansion beyond the limits of Mesopotamia proper. Years of coöperative effort on the part of philologists and excavators have resulted in a reasonably sound reconstruction of the ancient history of the country. The framework is now secure in the main and the time has arrived for the consideration of the more important details. These, however, cannot be solved without outside help. In other words, we must look to the neighboring lands for further light on Mesopotamia.

Recent excavations in Persia and in Syria have brought to light important links with the east and the west. The northern regions are receiving much attention in linguistic, ethnic, and archaeological investigations. Only the south has suffered from neglect; the secrets of Arabia are not easily unraveled, and she has not had many forceful champions on the Mesopotamian side.

Dougherty's book is more than likely to make up for this deficiency. His earlier study of Nabonidus,¹ the Neo-Babylonian king who was so singularly partial to the Arabian city of Teima, had left him, no doubt, with much unutilized information relating to the southern neighbor of Babylonia. In his present work the author introduces in an admirably organized discussion every scrap of evidence bearing on this subject which could be ferreted out from our diversified cuneiform sources. This is in itself a most useful achievement; but the conclusions are far more noteworthy. They may be summed up briefly as follows:

In the third millennium there was an important kingdom to the south of Sumer which bore the name of "Sealand" (*māt Tāmtim*). The great Sargon of Agade found it necessary to engage in military operations against it on no less than three occasions, which argues considerable power

¹ See his *Nabonidus and Belshazzar*, New Haven, 1929, Yale University Press.

on the part of the southerners. The Sealand continues to loom prominent, at least periodically, during the next two millennia, especially towards the end of Assyrian dominance when it becomes instrumental in the establishment of the Neo-Babylonian empire. Ethnically the Sealanders appear to have contained a predominant Chaldean element. Now if we confine the Sealand to a narrow strip near the Persian Gulf, as is generally done, it will be impossible to account for the power which the Sealanders displayed for so many centuries. Evidently, therefore, the land in question was more extensive than has been hitherto realized. The only likely region for expansion stretches towards the inland of Arabia. Certain indications make it plausible that the Sealand was indeed connected with Arabia. Two statements might be even interpreted as suggesting, though by no means proving, that the Sealand extended to the western confines of the Arabian peninsula. Sargon of Agade apparently brought his spoil from the west to his capital by way of the Sealand (hence Arabia). A chronicler of the time of Ashurbanipal speaks of the Sealand as extending from the city of Aqaba to a place on the Persian Gulf; if Aqaba corresponds to the modern town known by the same name, the Sealand must have reached as far as the Red Sea.

Summaries cannot always do justice to the process of reasoning which leads an author to a given conclusion through scattered strands of what is by no means decisive evidence. In the present case it is necessary to state that Dougherty is keenly aware of the inconclusiveness of a large body of his material. He is constantly at pains to warn the reader that most of the sources are capable of a different interpretation, and he would lay stress only on the cumulative effect of the arguments adduced.

There are scores of details in Dougherty's publication which the reviewer must refrain from commenting upon, owing to lack of space. Speaking generally, the impression gained from a careful study of the material is that Sealand's center of gravity lay not far from the Persian Gulf. This view is supported by the fact that the Sealand often made common cause with the eastern power of Elam, and also with the Kassites. Upon the whole, the evidence for contacts with the west

appears to be less conclusive. It is still likely, for instance (the language of the references in question being far from clear), that Sargon of Agade brought his western spoils part of the way by sea, for early sea-traffic between Sumer and the west (Egypt) is a distinct probability.¹ It must be remembered, however, that our geographical term need not have applied at all times to absolutely identical districts. Dougherty's discussion points to a certain leaning of the Sealand towards Arabia in later times; an originally restricted term may have come to be used for a wider area. At all events, the least that can be said for the author's central theory is that it cannot be definitely disproved. Future discoveries will show whether it can be completely vindicated. Dougherty is planning a survey of the district of Teima and his results will be awaited with keen interest. In the meantime he has earned our gratitude by his exhaustive treatment of an unwieldy though fascinating subject, which he has succeeded in synthesizing in a thoroughly logical manner.

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DIE TONDÄECHER DER AKROPOLIS: I, SIMEN, by Ernst Buschor. Berlin and Leipzig: W. de Gruyter & Co., 1929. Text and atlas, 54 pp., 12 pls., 63 figs. fol. RM. 60.

In recent years has come recognition of the fact that architectural terracottas have an importance in the study of architecture comparable to the place of pottery in the study of ancient painting. A few general surveys of the subject, and several detailed analyses of material from individual sites have already appeared. Now comes the turn of the Athenian Acropolis; and the necessarily cursory lists of Wiegand, Casson, and Mrs. Van Buren may be replaced by the exhaustive publication by the former director of the German Institute at Athens, of which the first part was appropriately issued on the occasion of the centenary of the German Archaeological Institute, on April 21, 1929.

As Buschor remarks, "The roof terracottas are the key to early Greek architecture." It is unfortunate, therefore, that comparatively little of the material on the Acropolis belongs to the early stages of architectural development. Among the 119 existing fragments of simas, for instance, Buschor distinguishes 26 types (besides 3 separate

¹ Cf. Frankfort, *Studies in Early Pottery of the Near East I*, pp. 136 ff.

lion-head spouts), apparently coming from 20 of the minor buildings on the Acropolis, though it is conceivable that some of the later simas may be replacements and that the number of buildings should be correspondingly reduced. Apart from the probability, however, that no. 22 with its acute angled corner belongs to the Brauronion or Chalkotheke (the similar but slighter deformation of no. 12 is probably a mere error of workmanship), none of these buildings can be identified. Buschor's suggestions that nos. 10/11 or 13 may belong to the Old Propylon, 20/21 to a small building connected with the Erechtheum, 23 to a reconstruction of the Opisthodomos, rest on no satisfactory foundations.

Buschor finds that these simas may be classified in five groups according to profile: I, the vertical fascia rising to an overhanging lip (nos. 1-6); II, the ovolo at the top definitely separated from the fascia below (nos. 7-9); III, the ovolo dying into the vertical fascia in the manner of a *cyma reversa* (nos. 10-23); IV, the large ovolo with narrow fascias above and below (nos. 24-25); V, the *cyma recta* (no. 26). These groups follow each other in this chronological sequence; groups I and II are in the "black-figure" technique, group III in the "red-figure" technique, group IV in paint of the Hellenistic period, and group V shows no decoration at all. As for the patterns, group I is invariably decorated with a primitive Doric leaf pattern, above a simple guilloche (nos. 1, 4/5, 6) or a double guilloche (nos. 2/3); group II is not homogeneous, no. 7 having the early guilloche below (the rest is broken away), while no. 9 has the heart-and-dart above a developed anthemion with circumscribed palmettes; group III invariably shows beautiful anthemion patterns, often with circumscribed palmettes (nos. 10-14, 19, 22), and generally double (except in nos. 12 and 23); group IV shows a very degraded anthemion. On the basis of such criteria, and by comparison with the marble simas, Buschor dates group I from the end of the seventh to the middle of the sixth century, II to the Peisistratid period, III to the fifth century (with the first part of the fourth), while IV and V are later.

Perhaps further studies will demand slight revisions of this classification. Certainly no. 15 has a profile more appropriate to group II than to group III, while the simple S-curves and the simple maeander on the fillet would agree with 500 better than with 470 B.C., the latter being Buschor's suggestion. And no. 9, which is still in the

"black-figure" technique, is preferably to be dated earlier than 500 rather than about 480 B.C. It is curious that traces of fire, such as would have been caused by the Persian destruction, are mentioned only in connection with no. 10/11, and that fragments of this type only are noted as having been found in the Persian debris south of the Parthenon. As for group V, which Buschor regards as transitional between III and IV, it is obvious that this is rather an independent profile, such as appeared in Athens in the last third of the fifth century, though known earlier in Magna Graecia; the poor workmanship, however, suggests a late date.

In the case of each fragment the technical details are fully treated, and from these we may deduce some interesting generalities with regard to the forms of the roofs. It is noteworthy that only one type (20/21) has a flank sima; ten others (1, 4/5, 6, 7/8, 10/11, 12, 16, 22, 26) presented simas only on the gabled fronts, the rain water pouring freely over the flank eaves; and of the nine others (2/3, 13, 14, 15, 17/18, 19, 23, 24, 25) it is significant that only gable simas are preserved. In one case (9) the gable sima did not return at all on the flanks; in two others it returned for a short distance but without a lion-head (1, 4/5; no. 5, of which Buschor gives no satisfactory explanation, is certainly the flank return of no. 4); the short return has a lion-head spout in seven (6, 7/8, 10/11, 12, 16, 22, 26); only in no. 20/21 did the lion-heads continue all along the flank. It is known that there were lateral acroteria in nos. 1, 4/5, 6, 7/8, 10/11, 16, and possibly in no. 12, but none in nos. 9 and 26; an apex acroterion is certain only in no. 17.

The single flank sima no. 21 is peculiar in using the gable technique, with Z-shaped joints, in spite of the lion-head at the centre of each piece. This is not, however, unique: the reviewer has noted similar incongruities in terracotta simas from Locri Epizephyrii and Caulonia, and even in the limestone sima of the temple of Herakles at Akragas. As for the circular bored holes on the top of sima no. 21, at either side of each joint, Buschor's assumption that they received dowels for rampant antefixes (which could with difficulty be reconciled with the reviewer's theory of the date of the introduction of such antefixes at Athens, about 375 B.C.; cf. *A.J.A.* 1932, p. 172) seems impossible in view of the fact that they are not symmetrical with respect to the visible joints and the lion-heads, but are properly placed to serve

for small clamps; unmistakable clamp cuttings of this sort appear in the above-mentioned terracotta simas at Locri, and in stone at Paestum.

It is to be hoped that the continuation of this valuable publication will reveal other significant forms, such as flat and cover tiles, which may be combined with the simas and yield some clues as to the buildings on which they were employed.

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DAEDALUS AND THESPIA, Vol. II (in two parts), by Walter Miller, A.M., LL.D. Pp. 267; 57 figs. The University of Missouri, 1931. \$2.50.

The second volume of Dr. Miller's book assembles from ancient Greek and Latin dramatic poetry all references to sculpture (part one) and minor arts (part two). These are given in the original with translations of the Greek. There are few typographical mistakes. The printer has jumbled the lines of one translation (p. 333). The author's phraseology invites an occasional criticism. There is a commercial connotation in "any line of art creation" (p. 331), and infelicity in "the cottabus game pulled off in three fragments of the comic poet Plato" (p. 560). It is stated (p. 576 n.) that the richest collection of the staters of Croesus has recently been brought to this country. If the author is here referring to the gold coins which were found by Dr. Shear, the collection is in the museum at Constantinople, or should be, because Dr. Shear delivered the coins to the authorities of that museum. Dr. Miller's description of the Theseus in the east gable of the Parthenon as soft and effeminate (p. 362) will not meet with general acceptance. Drapery which Sophocles describes as clinging should not suggest that of the later Praxiteles (p. 334) whose better known extant works are nude.

Dr. Miller observes that the poets are far less definite in references to the plastic arts than they are to architecture while the Latin poets afford little information about art. No definite work of sculpture is mentioned in any extant Latin drama. The author omits the description of the poet Naevius (*Miles Gloriosus* II, 2): *os columnatum poetae barbaro* which restates *columnam mento suffiget suo*. The representation of a poet as resting his chin on his forearm, placed vertically like a column, is taken from Greek sculpture. Menander, who must have seen the marble relief of a dramatic poet at Athens (*Ath. Mitt.*

1901, pl. VI, p. 131), may have contributed the motif to Plautine description. Sappho assumes the same poetic pose in Pompeian painting (Herrmann, *Denkmäler*, pl. 28).

Several of Dr. Miller's translations and interpretations seem to the reviewer inadequate. A comic fragment (p. 551) is rendered: "We've got the loot, a big bunch of it." There is no soldier's slang in the original: *εὐποροῦμεν, οὐδὲ μετρίως*, which may be translated: "We are well off, and not moderately so." Two verses of Euripides (*Elec.* 387-8) are translated: "Hulks of flesh devoid of wit (*αἱ δὲ σάρκες, αἱ κεφαὶ φρενῶν*) are mere statues in the market place." If the subject and the predicate of the original are here interchanged and the sentence reads "Statues in the market place are devoid of mind," there results a well formulated ancient criticism of the art of Myron, the contemporary of Euripides (*animi sensus non expressisse*, Pliny, *N. H.* 34, 58). These verses do not condemn Euripides as a Philistine as Dr. Miller (p. 333) believes, but show the poet to have been a sound critic. The author's acceptance (p. 355) of Wieseler's interpretation of the Aeschylean *ὀρθὸν ἢ κατηρεφῆ πόδα* leaves art out of consideration. Aeschylus must have seen Myron's statue of Athena and Marsyas. The copy of the Athena in Frankfurt (*Ant. Denk.* III, pl. 9), the foot of which is covered by the drapery, defines the word *κατηρεφῆ*. Wieseler's translation of it "striding" gives the very opposite of the intended meaning. A foot that is "covered" is motionless.

When Xanthias in the *Frogs* (501) dons the lion's skin of Herakles he is greeted with *ἀληθῶς οὐκ Μελίτης μαστιγίλας*. The last word is finely playful. Xanthias is a "whipped slave" as was Herakles at the court of Omphale. Xanthias must have looked like the statue of the Melitean Herakles. The word *μαστιγίλας* makes of Xanthias a "*statua verberata*" (Plautus, *Cap.* 951). Dr. Miller's translation, "the jail-bird from Melite" (p. 360), misses the point.

The author believes that Aristophanes makes direct use of the frieze of the Parthenon in the festal procession of the *Ecclesiazusae* (728-45). One would expect a Greek poet to be more dramatic and parody an actual procession. That is what Aristophanes has done here. The parody, however, is not of the Panathenaea but of the Anthesteria. The first verse in which the speaker says he will carry his utensils to market suggests the market of the Anthesteria at which vases were sold for the Choes and the Chytroi of

the festival. The agrarian Anthesteria gives more point to the sieve and the sacks of the parody than does the Panathenaea. The concluding verses of the parody are especially suited to the last day of the Anthesteria which was called *χῦτροι*: "Bring out the lekythos, the little pots (*χυτρίδι*) and send away the crowd (*τὸν ὄχλον ἀφιέρει*)." On that day the souls of the dead were sent away (*θύραξ, κῆρς*). The lekythos was a vase of sepulchral associations. The little pots (*χυτρίδια*) allude to the name of the final day of the festival, Chytroi. The command to send away the crowd parodies the command to the souls to depart. Dr. Miller's translation (p. 364), "let the junk fall in," is forced and misleading. The author again overlooks a parody of ritual in that scene of the Peace in which Opora is given in marriage to Trygaeus, whose name is Dionysiac enough. He states (p. 377) that the interpretation of Opora as a statue is "absurd beyond all hope." But marriage with a statue occurred in the Anthesteria when the wife of the archon acted as bride of the xoanon of Dionysos.

In the *Wasps* (1371-7) the flute-player Dardanis is mistaken for a burning torch. Dr. Miller, who scents here a survival of human sacrifice (p. 433), cannot explain why Dardanis should be so "rigged up." Aristophanes is here taking a fling at a foreign cult. Dardanos, from whom the flute-player gets her name Dardanis, introduced the cult of Cybele into the Troad (Graillot, *Le Culte de Cybèle*, p. 11, n. 3). The ritual of this cult included "des véritables tatouages opérés par piqûres au moyen d'aiguilles rougies au feu" (*ibid.*, p. 182). The devotees of the Dardanid cult were thus "burned" for their deity. For Aristophanes the branded Dardanis is a burning torch. The scholiast cited may have had in mind the animal forms tattooed on Thracian women (*J.H.S.* IX, pl. 6; *Jb. Arch.* I., 1912, p. 32) who acquire added interest in this connection if the theory is correct that Dardanos is Thracio-Phrygian (Macurdy, *Troy and Paeonia*, p. 46).

An unidentified fragment of Aristophanes contains the verse *βασκάνιον ἐπὶ κάμινον ἀνδρὸς χαλκῆος*, which Dr. Miller (p. 444) translates "the witch from in front of the blacksmith's shop." The Greek means rather "a charm for a blacksmith's furnace." The author's citation from Pollux (VII, 8) gives the meaning exactly. Such an apotropaic mask is seen in vase painting (Fowler and Wheeler, *Greek Archaeology* p. 436) where the mask is affixed to the front of the kiln.

The discussion of the shield devices of the Seven against Thebes is one of the best chapters of the book (pp. 460 ff.), but is marred by the author's insistence upon an erroneous interpretation of compounds ending in *νωτος*. Thus *χρυσ. ἐόντων ἀσπίδα* is translated "gold backed shield" and explained as a shield of bronze with a device in gold. There is nothing strange about the compound as the author maintains (p. 466) if the secondary meaning "curved surface" is taken. The shield was simply veneered with gold. The interpretation of *γοργόνων* (*Ach.* 1124) as a Gorgoneion at the center of the shield is inexact. The Gorgon head filled the entire circle of the shield as it does on the Chigi vase (*Ant. Denk.* II, pl. 44).

A fragment of a comedy by Menander mentions Persians with *μυισόβας* which Dr. Miller (p. 544) renders "fans." The word means "fly-flap." Menander represents a Persian as an Athenian contemporary painted one on the sarcophagus of Alexander. If a fan is substituted in these two pictures, their Persian atmosphere is somewhat vitiated. Another comic fragment (of Antiphanes) mentions a *χρυσοκολλήτου καλπίδος* which is translated (p. 544) "a pitcher inlaid with gold." The second element of the compound does not mean "inlaid" but "glued to, soldered." The fourth century when Antiphanes lived saw the growing popularity of relief ware, the figures of which were sometimes separately modeled and attached, as is illustrated by the Chertomlyk vase (*Ant. Denk.* IV, pl. 44). Dr. Miller cites a fragment of Alexis containing the words *κύλιξ στέφανον κύκλῳ ἔχουσα χρυσοῦν*, which he takes to mean "a Thericlean cup with a gold rim round about it." If *στέφανος* is translated "crown, garland" the cylix becomes the literary counterpart of the clay and metal cups so popular in the time of the poet (*Ath. Mitt.* 1901, p. 74, from Athens; Dar-emberg et Saglio, *Dict. s.v. Thericleia*, p. 214). Alexis probably had in mind a gold cylix with a garland in relief about it.

In conclusion attention may be called to the author's interpretation of Lysistrata 231-2: *οὐ στήσομαι λέαν' ἐπὶ τυροκνήστιδος*, "I will not take the attitude of a lioness upon a cheese-grater." Dr. Miller apparently shares the view of Blaydes that there is here no allusion to the proper name Leaina (p. 570). Since Aristophanes had probably seen the statue of a lioness which crowned the tomb of Leaina, the mistress of Harmodios, a reference to it would be quite natural. The last

word gives an unexpected licentious turn to the sentence. One expects *ἐπὶ τύμβου*, but gets *ἐπὶ τυροκνήστιδος*. For the complete appreciation of this *παρὰ προσδοκίαν*, one should compare the colossal statue and its lioness which was found at Phoenician Amathus with the Hesychian definition of *κύλαξ: σχῆμα Ἀφροδισιακὸν ὡς τὸ Φοινικιζόντων*. The first element of the compound *τυροκνήστιδος* confirms the Phoenician reference because *τυρο-* is *τύρος* (Tyre) as well as *τύρος*.

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AN EGYPTIAN HOARD OF THE SECOND CENTURY, A.D., by Shirley H. Weber. Numismatic Notes and Monographs No. 54, New York, 1932. \$1.50.

In 1923 Mr. Newell purchased in Cairo a hoard of some 300 silver coins, which is now ably published by Professor Weber. It seems reasonably certain that this hoard from the Delta is intact. A notable feature is the unusual association of coins of the second and first centuries B.C. from the Peloponnesus and Rhodes, with Roman denarii from the reigns of Nero to Trajan.

Sig. Segré has pointed out that the fact that the Roman denarius did not circulate in Egypt was due to the monetary advantage enjoyed by the Romans in that province, so that the intrinsic value of the Roman silver maintained itself above that of the Alexandrine tetradrachm. The presence in the hoard of a large number of denarii, therefore, raises an important question. The presence of the Greek coins is also surprising, for Head has declared that coins such as these remained in circulation for only a century or two after issue. The hoard, then, proves that these coins continued in circulation at least two centuries longer than Head had thought, and maintained a value equal to the denarius. But how are we to explain this combination of Greek and Roman coins in Egypt? Professor Weber makes the suggestion that the hoard was the property of some resident of Achaea, temporarily sojourning in Egypt, possibly a merchant in the Delta, with connections abroad, who would be in a position to pick up the Greek coins and save them with his silver denarii. His hope to return home, where he could spend the money, was for some reason frustrated. Professor Weber has some interesting remarks on the reason for the burial of this hoard, which was begun under Domitian and buried in the reign of Trajan. Under Trajan,

the Roman aureus fell suddenly in value, particularly in Egypt. Our merchant of course was quick to see the advantage of saving his silver.

The description of the coins is excellent, and the plates are satisfactory. Not only are there some unusual combinations of types, in the case of the Roman coins, but on the coins of the Achaean League occur some new combinations of monograms and on the other Greek coins some new magistrates' names.

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THE EARLY AGE OF GREECE, by Sir William Ridgeway: edited by A. S. F. Gow and D. S. Robertson. Pp. xxviii+747. Vol. II. Cambridge: The University Press, 1931; New York: The Macmillan Co. \$11.00.

The first volume of *The Early Age of Greece*, which was published in 1901, was, with all its defects, a work of genius, one of those fructifying books whose influence on historical and archaeological studies is inestimable. In the introduction to the second volume, published thirty years after the appearance of the first, A. J. B. Wace shows how much of permanent value still remains in the earlier volume, in spite of what must be subtracted in the light of subsequent excavations and of historical and linguistic contributions made to the subject by twentieth century investigators. Wace notes that in the last years of the nineteenth century Ridgeway, working in his study, had arrived at practically the same conclusions about the origin of the Mycenaean civilization in the Aegean area as those of archaeologists and explorers such as Sir Arthur Evans, J. L. Myres, Tsountas and others. It now seems incredible that Ridgeway's paper read before the British Association in 1896 should have been refused at first by the editors of the *Journal of Hellenic Studies*, but as Wace says it was Ridgeway who "attracted against himself the counter-attacks of the old guard." In the Introduction the contrast is interestingly set forth between the "Fundamentalist" attitude of Professor Percy Gardner and others who deprecated the attempt to trace back and analyze the civilizations and cultures which preceded the blossoming of the Hellenic centuries and the evolutionary methods of Ridgeway, who "would constantly urge his pupils to strip off the layers and see how the structure had been built up." And therefore, though the layers as he determined them are no longer all ac-

cepted now, his early work remains a great piece of extraordinary and discursive scholarship and brilliantly constructive imagination.

The editors of the second volume have struggled with enormous difficulties in preparing for the press a work parts of which were already in proof in 1901, added to through many years thereafter by the author, and finally left by him in an unfinished state at his death in 1926. They have published four chapters: (1) on Kinship and Marriage; (2) on Murder and Homicide; (3) on Fetish, Totem and Ancestor; (4) on Ireland in the Heroic Age. They remark that the work was growing in Ridgeway's hands from the Early Age of Greece to an Early Age of Europe.

The second volume has inevitably even more of the discursive and unorganized writing that is characteristic of Ridgeway and lacks the thrilling quality of that first great attempt to get a true perspective of the early Aegean centuries. In the first chapter he refutes the evidence of McLennan for the importance of the female in kinship and descent in the Homeric poems, but his refutation frequently rests on his own arbitrary division of the people of the poems into Pelasgians and Achaeans. His admiration for the "splendid morality" of the blonde Achaeans and "their high ideal of the marriage state" as contrasted with the brunette and polyandrous, if not promiscuous, Pelasgians remains unabated in this second volume, and he ascribes to the Aegean people all that is grossest in historical Hellas (p. 354). His own provenance from the north of Ireland is often amusingly underscored by some of his excursions, such as his ascribing the proverbial chastity of the Irish Catholic peasant women entirely to the introduction of English law and the Protestant religion. He considers that the dark Irish were polyandrous and matriarchal. The Illyrians he puts in the same category and regards it as a consequence of this matriarchy that the only Illyrian monarch to make an important appearance in history is Queen Teuta, the Pirate Queen, who came in conflict with the Romans in 228 B.C. He fails to note that Teuta was not queen in her own right, but the guardian of her step-son Pinnes. This Hellenistic custom by which the mother of the minor king acted as his regent has a long history and survived to the middle of the third century A.D., as I have emphasized in an article entitled "Queen Eurydice and Woman-power in Early Macedonia," *A.J.P.* XLVIII, 1927, and in *Hellenistic Queens* (p. 11).

This volume overwhelms the reader with the immense knowledge and enormous range of reading displayed in it and also at the same time often amazes him by the high-handedness of the author when he seizes an argument for his own purposes without sufficiently testing it. An example of this is his defense of the last Ptolemies against the charge that the incestuous marriages which began with the fourth Ptolemy and his sister Arsinoe brought about physical and moral degeneration among the reigning Ptolemaic monarchs. He declares that in the person of Cleopatra, the last sovereign of her race and of ancient Egypt, all the allegations brought against the offspring of incestuous marriages meet their confutation. But as a matter of fact the fifth Ptolemy, who died prematurely, was the only reigning male Ptolemy who was indubitably the child of parents who were brother and sister. The sixth and seventh were sons of Cleopatra "The Syrian" and Ptolemy V; the eighth and ninth were children of Cleopatra III and her uncle, Ptolemy VII; the tenth was son of Ptolemy IX by a concubine; the eleventh was likewise son of Ptolemy VIII by a concubine. And of the female monarchs only Cleopatra III and Berenice III were certainly children of brother-and-sister unions. It is not known who the mother of the great Cleopatra was, or whether or not she was the sister of her husband. The later Ptolemies did marry their sisters, but as the facts just stated show, no cogent arguments for the innocuousness of incest can be drawn from the actual Ptolemaic monarchs. Indeed Ridgeway's statement that there was no sterility in the incestuous marriages seems to be in a degree refuted by the fact that the line passed over to the children of concubines.

The chapter on *Murder and Homicide* has an interesting and acute discussion of the Trial Scene in Homer and for many pages holds to its theme, but the question of the man-price raised on page 397 leads the writer on to the consideration of the ratings for wealth among the Romans; we return to the *wergelt* on page 402 and on page 406 are in the midst of the copper question, followed by that of the fibula and of various Hallstatt forms of ornament. Another example (among many) of such discursiveness is offered on page 35, where we are promised the demonstration that the indigenous people of Britain and other parts of western Europe had the customs of polyandry and female succession. The proof leads to the discussion of armour, tattooing,

nakedness, bronze rattles, and short swords. We follow, fascinated, wherever the arguments lead, now on familiar paths and now on strange byways where we have lost our bearings altogether.

The chapters on *Fetish, Totem, and Ancestor and Ireland in the Heroic Age* can be read with profit and interest by anyone, but it is beyond my competence to pass judgment on them. Indeed, to review the book adequately requires one who possesses the same immense and diversified knowledge as the author and in addition has a critical power that is seldom in evidence in Ridgeway's writing when his prejudices or fixed ideas are involved. The book is full of information for all who devote themselves to historical, anthropological, archaeological, and literary study. It must be used with caution, and not quoted as giving the final word without checking the author's pronouncements, but one may open it at random and read on with delight.

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Eos, Commentarii Societatis Philologae Polonorum. Vol. 32. Leopoli, 1929. 16 Swiss francs.

The volume contains three archaeological papers written in French. Bulanda (*Étude sur la tête de Délos*) tries to refute both interpretations given by Bienkowski and Deonna that this fine head represents a Gaul or a giant, but his proposal that a Greek is represented is not sufficiently supported because the author does not explain the original motive of the whole statue. Also his second point that the head does not belong to the Pergamene school, but is to be dated earlier, is not convincing and needs a much more detailed study of the various monuments of the Hellenistic period than the author has made. The second article (J. Starczuk, *Les Sculptures antiques de Wilanów*) is very valuable because it is a description of one of the private collections scattered over Poland and mostly unknown to Western archaeologists, but the illustrations are not very satisfactory, so that it is difficult to test the stylistic judgment of the author. There are three portrait heads. A female head is believed to represent Sabina; the period may be correct, but the identification is very doubtful. A male head has a superficial resemblance to Demosthenes; the author declares it to be Roman, and assigns it to the first century A.D. or the beginning of the second century. The third head which suggests somewhat the Sophocles

in the Lateran is dated in the second century A.D. A female head already published by Amelung (*Röm. Mitt.* 1923-1924, 47) is well characterized as an early work of Praxiteles, still under the influence of Kephisodotos. The connection of a youthful male head with an Apollo of Paionios is not very convincing. There are four fragmentary reliefs. The author has cleverly shown that one of these which pictures one of the Dioscuri and part of a figure of Artemis belong to a scene like that illustrated in Robert, *Sarkophagreliefs*, III, pl. 83; a second relief, also a part of a sarcophagus, shows a Silenus punishing a Satyr, and is comparable to one in the Museo Capitolino, Galleria no. 46A. Two very interesting reliefs represent chariot races, in which the chariots are drawn by camels and geese and the charioteers are a rat and an owl. They do not represent actual performances in the Roman Circus as the author thinks, but belong to a widespread class of monuments beginning in Egypt, which show animals in human occupations (cf. Swindler, *Ancient Painting*, p. 36).

A short but instructive article by Grot deals with Roman remains in Czecho-Slovakia.

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HESPERIA: Journal of the American School of Classical Studies at Athens. Vol. I. Cambridge, Mass. (Harvard Press), 1932. 218 pp., 7 pls. \$3.00.

With this volume, at present in the form of an annual, the American School of Classical Studies at Athens resumes the publication of its own organ, with a different format and different title for the old *Papers of the American School* (I-VI, 1882-1897). The new volume has been splendidly printed at Vienna, and the illustrations are perfect; one can criticize only the use of a very thin font of type on the dazzling paper. Four long articles comprise the material of the current year.

The initial article is that of the Director, Dr. Carpenter, reporting his noteworthy discovery of statue "U" of the west pediment of the Parthenon ("New Material for the West Pediment of the Parthenon," pp. 1-30, 14 figs., 3 pls.). The lower part of the missing "U," last seen by Nointel's artists in 1674 and so presumably overthrown in 1688, had been lying neglected for many years outside the Acropolis Museum, with no recognition of its origin or value. Carpenter proves its identity by measurements, style, tooling for an

adjoining figure of a group, agreement with the "Carrey drawings," and conformity to the traces still existing on the pediment floor. He proves, furthermore, that of six marble figures found at Eleusis about 1890, and of which one had been immediately recognized as a copy from the west pediment of the Parthenon (B, Kekrops), the five others were also copies from the angle figures of the west pediment (A, A*, U, U*, W), at a scale of one in three. Of these, A* and U* had already disappeared even before 1674, and even the former existence of such a statue as U* had been disputed; the newly identified Eleusinian copies furnish our only evidence for their appearance. Particularly happy is the identification proposed by Carpenter for his new group of U+U*, Philomela and Prokne with the infant Itys. Rarely have we had a demonstration so complete and perfect as this.

O. Broneer ("Eros and Aphrodite on the North Slope of the Acropolis in Athens," pp. 31-55, 17 figs.) reports on the excavation of a hitherto unsuspected sanctuary, resulting from the discovery of two rock-cut inscriptions amid a group of votive niches. Both inscriptions are of the fifth century, and from them is derived the name of the rustic precinct, since one bears the name of Aphrodite, and the other states that the festival of Eros occurs on the fourth of Mounichion. Broneer convincingly argues that this was the sanctuary of Aphrodite to which the Arrephoroi descended by an underground passage from the Acropolis. His contention that there were two sanctuaries of "Aphrodite in the Gardens" seems less plausible, however, than Jane Harrison's view that Pausanias simply made an error.

Miss L. T. Shoe ("A Box of Antiquities from Corinth," pp. 56-89, 30 figs.) describes the most important (twenty-nine items) of the contents of a box containing 255 antiquities resulting from illicit digging at Corinth and seized by the police after the earthquake of 1928. A bottomless but beautifully detailed archaic bronze situla, four terracotta figurines ranging from the fifth century to the Roman period, two Mycenaean vases, a geometric jug and stand, seven Corinthian vases ranging from ca. 625 to 525 B.C., two late Attic black figured lekythoi, two red figured vases, five polychrome lekythoi, two other late Attic vases, and two late Corinthian pieces, are those chosen for illustration and description.

The most important contribution to the present number is unquestionably the definitive pub-

lication of the Athenian assembly place, by Kourouniotes and Thompson ("The Pnyx in Athens," pp. 90-217, 70 figs., 4 pls.). Not only are we presented with detailed drawings to replace those made by Clarke fifty years ago; we now have a systematic exposition of the three successive periods in this structure's history, of which the third and last has been known since 1765, while the second was discovered in 1911, and the first in 1931. The analysis of the three periods is preceded by a general account of the successive excavations; the reference (p. 90) to Chandler's discovery of 1765 might preferably have been given to his original edition of 1776 (rather than 1817); and there are many more allusions to the excavations of 1803 by "Athenian Aberdeen" than that cited from Dodwell. The first period is clearly demonstrated to be that of Kleisthenes; and it confirms the generally discredited evidence of Plutarch that before 403 B.C. the bema faced in the opposite direction, toward the sea, rather than inland as at present. This is the most dramatic result of the investigation. The remains permit a nearly complete restoration of this hitherto unsuspected structure. Only one detail arouses doubt: it is impossible to claim (p. 113) that the bema was of wood and that Aristophanes "simply cancels out" because he once calls it *πέτρα* and once *λίθος*; it was certainly stone of some sort. In connection with this early Pnyx the *heliotropion* of Meton was erected in 433/2 B.C.; but the proposed conjectural identification of the site (pp. 207-211) is hardly possible, since the foundation is exactly on the axis of the Hadrianic Pnyx, and parallel to a wall which in turn was at right angles to the Hadrianic axis, which bisects the neighboring angle of the city wall.

The reconstructed Pnyx of 404/3 B.C., smaller but approximately concentric with that which now appears, is clearly dated by vase fragments, proving that it, and not the present massive scheme, was the structure to which Plutarch referred. Here the remains, while more imposing, do not yield such complete data for the restoration, and in at least two particulars the result proposed by the authors seems unsatisfactory. The first is the area, uncertain because the position of the bema and the straight front wall of the auditorium could not be determined; but it seems probable that these should be placed farther south, giving a full semicircle with an area of about 3200 rather than 2600 sq. m. The other

item is the sloping earth surface restored for the auditorium; the only actual evidence, that derived from the analogy of the Hadrianic Pnyx (see below), would seem to prove that it was horizontal. It seems impossible to believe that the Thirty, besides changing the orientation, also reversed the slope of the hill.

The third Pnyx, that which we see today, is clearly proved by the potsherds from the fill behind it to have been of the second quarter of the second century A.D., and this Hadrianic date (which Kourouniotes had already suspected in 1911) is confirmed by comparison with the Hadrianic buildings in Athens. Besides solving the long debated question of the age of the Pnyx, the article gives a more detailed account of the extant remains than has hitherto been available. The minutiae of construction are fully described and acutely interpreted. At one point there is some inconsistency in that two blocks on sloping beds, described as ϵ and ς (p. 143), appear as ς and ζ in fig. 33, where, furthermore, both are of about equal length in plan, while ς is represented as twice as long as ζ in pl. II. The restoration of the Hadrianic Pnyx offers a difficult problem, and the result attained in the article, with an upward slope of 4.00 m. from the centre toward the edges of the auditorium, the huge earth embankment then descending 11.00 m. to the retaining wall, seems contrary to the evidence. It is claimed, to be sure, that the inclined mass of earth now in the southwest corner is artificial filling (p. 153), but no proof (such as stratification, etc.) is offered, beyond the fact that the rock floor itself is rough and covered with quarry chips (p. 140). But the chips could have been part of a thin layer of rammed earth which made the rocky portion of the floor homogeneous with the rest of the terrace. Until contrary evidence is adduced, it seems preferable to assume that the extant earth slope is composed of material washed down from above. For the south scarp is carried down to a horizontal plane, the level of the bottom of the bema, beautifully finished throughout; it seems incredible that this would have been carried down merely to furnish a limit for quarrying operations (p. 140), and afterwards buried to a depth of 4 m. The two surviving radial lines of stela sockets, 0.08 m. deep, are cut in this rock floor; and since, to have separated the *kerkides*, they must have extended at east 0.60 m. above the final ground level, a simple computation shows that the four west stelae, for instance, must have risen at least

1.05 m., 1.65 m., 2.55 m., and 3.40 m. above the bottoms of the sockets,¹ the last being reduced to about 2.70 m. by the special block in which it is set (p. 156). But it seems preposterous to assume that slender Hymettian marble slabs (the bottom of one exists), about 0.15 x 0.33 m. in plan, were intentionally buried to a depth as great as 2.10 m. The evidence of the sockets, like that of the scarps, is that the floor was horizontal.² Another difficulty which would be obviated by a horizontal floor is the centre on which the radial lines of the stele sockets converge, about 3.40 m. in front of the bema, approximately on the main diameter connecting the ends of the curve (4.30 m. in front of the bema); for, in order to retain a semicircular auditorium and yet leave room for a heavier embankment at the north, the authors disregard this centre (p. 156) and establish an arbitrary centre about 4.00 m. farther back, on the front of the bema. The assumption of the sloping auditorium, furthermore, seems to have led to a doubtful interpretation of the bema; for the speaker is assumed to have stood upon the lower platform, only 1.04 m. above the floor (pp. 160, 162), so that the audience in the sloping auditorium looked down upon him; but it is more probable that this lower platform was reserved for the secretaries, and that the speaker stood on the monumental central platform, 3.00 m. above the floor, looking down upon the level audience as in the primitive Roman theatre. Such being the case, we must continue to interpret the great mass of unquarried rock in the southeast corner as the result of incompleteness, just as the steps to the bema on this very side are unfinished (p. 160, fig. 39). It may be that the sanctuary of Zeus Hypsistos, previously established on the site of the east scarp, interfered with completion; or perhaps the Pnyx was left unfinished because it almost immediately ceased to be used for as-

¹ The sockets (pl. II) are centred 4.15 m. (the figure 2.15 m. on the plan must be an error, as it fits neither the scale nor the statements that the little post hole is 5.40 m. beyond the bema and 10 m. from the axis, pp. 154, 158), 11.65 m., 22.05 m., and 32.80 m. from the assumed beginning of the slope, of which the maximum height is 4.00 m. at a distance of 48.30 m.

² Judging from the higher elevation of the outermost stele socket, the portion of the auditorium outside the diazoma would seem to have been elevated by about 0.70 m. The steps from the diazoma to the southwest entrance (p. 170) must have been built against the scarp.

semblies (Pollux, VIII, 132; cf. p. 189). The present top of the great retaining wall, three courses high, is 8.50 m. below datum at the north, curving upward toward either side; to attain the proper level, only five additional courses would be required, of which at least one is attested by the dressed beds on the present top of the wall. The very heavy backing of great stones (cf. pl. III, B) also implies that the wall rose much higher than at present. The suggested evidence that there was only one additional course seems invalid; the change of construction at blocks 5 and 10 seems merely to indicate that the lower and less important flanks were in "Cyclopean" construction, and that only the lofty north front, for a stretch of 73 m., was in rusticated ashlar masonry.

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BIBLIOTHEK WARBURG, VORTRAEGE, 1924-1925.
Pp. 371. Leipzig, Teubner, 1927.

In spite of the long delay, it is worth while to call attention to the present volume because it contains an excellent article of archaeological importance. I refer to Panofsky's "*Die Perspektive als symbolische Form*" (pp. 258-330). Better understanding of the psychology of Oriental artists, especially of the Egyptian and the Chinese, achieved in recent times, has shown that the lack of perspective in their work is due neither to a lack of skill nor to an imperfect technique; it is rather founded on a relation of men to the objects of the exterior world, which is wholly different from our own. These peoples have a different art because they have a different "*Weltanschauung*." Furthermore, physiological research had proved that visual imagery does not necessarily imply the perspective used by European painters for centuries. So it becomes clear that this perspective is not as natural and as self-evident as it was believed to be, and, moreover, that it is not the only possible way of representation. It is a "*symbolische Form*," i.e. a system constructed by men and imposed on the objects of the exterior world. Panofsky gives a very elucidating analysis of the peculiar form of this European perspective tracing its origin and evolution in antiquity and its reappearance from Giotto onwards in a modified form, which was by no means identical with that used in antiquity. Many sidelights are thrown on various problems, e.g. on the *scamilli* mentioned by Vitruvius. Interesting parallels with philosophers of different ages show the vast erudition of

the author and his ability to give a vivid picture of a cultural epoch. Another article in the same volume is "*Werdende Gotik und Antike in der burgundischen Baukunst des 12 Jahrhunderts*" (pp. 331-344). Valuable as it may be for students of Gothic art, it does not give to the student of ancient art what the title promises, because only a few words are concerned with antiquity.

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CUCUTENI, by *Hubert Schmidt*. Walter de Gruyter Co., Berlin, 1932. RM 41.

Dr. Hubert Schmidt would have felt less indignation at the general impatience to see the results of his excavations at Cucuteni in Roumania in print, had he realized that this indignation was based upon the conviction that a publication by the veteran student of prehistory who had already given us the masterly accounts of Trojan and Anau pottery, would be of exceptional interest.

The book which I have in hand amply fulfills all expectations. The analyses of pottery styles and their classification, both typologically and chronologically, are convincing, clear, and, while often subtle, are never confused. The author very successfully avoids the vice of overelaborate subdivision of the classes he establishes. The book is clearly printed, bound so that it opens out flat at any page, adequately and discriminatingly illustrated. In other words, it offers the student in practical and pleasing format, with a total elimination of the irrelevant and merely accessory, a complete picture of what was found at Cucuteni. Especially to be commended are the two plates giving the shapes of the painted pottery in periods A and B, which reduce the work of comparison to its simplest terms.

The site was inhabited from Chalcolithic times into the fully developed Bronze Age. After a very brief discussion of geographic and geological considerations the house types and fortifications are described. Unfortunately the author has little to tell us about the shapes of the houses, as they were apparently placed in the native rock and no traces of post holes were found. The walls were of the customary wattle and daub variety. The site was twice fortified with a broad ditch, the inner one being filled in when the outer was constructed. To these two periods in construction correspond two periods in the development of painted pottery during which, together

with modifications of shape, the ornament develops from a completely free style of polychrome ribbon decoration on a white background—in which the negative use of spirals predominates—to a more tectonic style in which white plays a subordinate rôle in the decorative scheme and the positive ornament gradually triumphs over the negative. A third group—C in Schmidt's classification—is represented by coarse vessels with combed surface, belonging to the Bronze Age, although neolithic in character, and related to a well-known class which seems to have its origin in the "Arctic-Baltic" region.

In a highly controversial and very interesting final chapter, entitled "Synthesis and Conclusions," Dr. Schmidt sums up the characteristics of Cucuteni culture and attempts to arrange the related painted pottery of the Danubian area, and to a less degree of the Near East and of the Aegean, in an orderly sequence. Our present knowledge of the Buekker and Theiss (Tisza) cultures seems to me hardly adequate to make it a firm foundation for the superstructure the author builds upon it. The immensely rich sites in the caves and valleys of Slovakia, which will doubtless supply the needed evidence, are only now beginning to be excavated on a small scale. Dr. Schmidt is a convinced champion of the European origin of much which others derive from the Near East. In the matter of Danubian-Aegean relations he sees in Thessaly the "bridge" over which the spiral elements which appear in Minoan art were carried southward, "there to experience an undreamed of development and 'Hochblüte.'" Perhaps little but personal satisfaction on the part of the reviewer can be gained by registering her disagreement with the rôle assigned to Thessaly; for the battle of Europe versus the Near East has been fought too often for controversy to shed any added light. Not until further excavation in Asia Minor and along the eastern Danube brings forth more evidence can it be brought to a conclusive issue.

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PALMYRA. Ergebnisse der Expeditionen von 1902 und 1917. Textband bearbeitet von Daniel Krencker, Otto Puchstein, Bruno Schulz, Carl Watzinger, Theodor Wiegand, und Karl Wulzinger. Mit Beiträgen von Adolf

Fick, Hans Lehner und Edmund Weigand. Textband, pp. 1-169 and a map. Tafelband, pls. 1-100. Berlin, H. Keller, 1932. RM 155.

German archaeologists and especially the German Archaeological Institute have done before and during the war admirable work in Syria. Excavations at Baalbek, careful study of Damascus, a prolonged visit to Petra are recorded in excellent, brilliantly illustrated publications. Now comes the study of Palmyra. We learn from the book under review that Palmyra was visited recently twice by German expeditions: in 1902, O. Puchstein (died in 1911) and his associates spent 23 days here, and in 1917 Th. Wiegand (with C. Watzinger and K. Wulzinger) as leader of the well-known German-Turkish "Denkmalsschutz-Kommando" remained in the ruins of Palmyra for 27 days. Some problems were further studied by D. Krencker and his associates H. Koethe and A. Fick in 1928.

The results of these short but fruitful visits are now published in the book under review.¹ It is astonishing to see how much has been done by the German archaeologists in so short a time. A complete survey of the city including the cemeteries recorded on one general map and many maps of parts of the site, measurements, plans and restorations on paper of the most important extant buildings of the city, a consolidation of the foundations of the so-called triumphal arch of the city (now thoroughly restored by the French Service of Antiquities) and finally some soundings in various parts of the city which made it possible to recognize and understand better such buildings as the camp built by Diocletian, the theatre and the two extant temples of Palmyra, and which led to the unexpected discovery of a new temple east of the theatre. Such is the dry catalogue of the work done by Puchstein and Wiegand!

These brilliant results achieved by strenuous work of a small group of excellent specialists in a very short time show how easy it would be

¹ How little was known of the results of the German visits to Palmyra may be illustrated by the fact that during my repeated stays in Palmyra I never was able to find out where the Germans had excavated. This is the reason why I did not mention the German expeditions in my book on the Caravan Cities just published by the Oxford Press. It appears now from the volumes under review that the German expeditions rank with the best that have visited the ruins of Palmyra.

to do final work at Palmyra: the layer of sand which covers the ruins is not deep, the architectural fragments not very abundant, the reconstructions of the buildings in ancient times few and insignificant. A set of campaigns of excavation if started by the Syrian Government will certainly, if carried out methodically and scientifically, reveal to us the true aspect of the unique city which Palmyra certainly was, this queen of the desert, a typical caravan-city, which passed as a brilliant meteor on the horizon of ancient history.

Let me now give a short survey of the contents of the book and present some remarks on the work done by Puchstein and Wiegand and their associates. The first four chapters give a short account of flying visits to some of the monuments in the neighborhood of Palmyra. Most interesting are the ruins of two fortified estates of Palmyrene grandees at Hazime and Bazurije carefully studied by Wiegand. They give us a new aspect of the life of the rich Palmyrene merchants who certainly were owners of large herds of camels for which they secured grazing places and water supply in the near neighborhood of Palmyra.

In the fifth chapter Puchstein discusses the general plan of Palmyra, its streets and squares and its private houses. Some supplementary remarks of Krencker (ch. VI) and of Wiegand (ch. XVI) point out the problems which still await their solution as regards the history and the general aspect of the city. It seems certain that the early settlement, that of the Hellenistic and of the early Roman times surrounded the main sanctuary of the city, the early pre-Roman sanctuary of Bel of which we know practically nothing. The rapid development of the city was due to the understanding between the Roman and the Parthian Empires for which Augustus was responsible. The temple of Bel was rebuilt and probably the main outlines of the new city laid out. In the first century A.D. the city grew by leaps and bounds. This century in my opinion was the most creative period in the history of the city. Wealth was accumulating, the requirements of the steadily increasing population were growing, life assumed ever more refined forms. The climax was reached in the early second century A.D. It has become a habit with modern scholars to associate Hadrian with this climax. I see no real reasons for it. As I explained in my book on the caravan-cities, Hadrian was highly

honored by Palmyra not because of his problematic gifts to the city and his still more problematic reconstructing of it, but because after the imperialistic endeavors of Trajan he came back to the *status quo* of Augustus and guaranteed for Palmyra another century of prosperity. I think therefore that the plan of the city was, as we see it now (without the fortifications which probably were not built before the troubles of the third century A.D.), not the work of one short period and of one man, but must be regarded as the result of a gradual development according to a general plan which was devised as early as the first century A.D. It is hard to believe that at a certain moment quite suddenly the orientation of the city was changed, the plan of regular blocks was adopted and the colonnaded streets planned and gradually carried out. I do not deny, however, that the shape in which the colonnaded streets exist now was given to them by rich Palmyrenes of the second and third centuries A.D. It could not have been otherwise. The earlier monuments of course deteriorated and were gradually replaced by later works. What I do not believe is that the general plan of the city with its square blocks and straight streets, with the skillful adaptation of this system to the orientation of the temple of Bel must be dated as late as the second century A.D. I have not found in the book any careful analysis of the so-called triumphal arch which marks the beginning of the sacred avenue which led to the temple of Bel. I am inclined to think that it is an earlier work than most of the columns of the main street. If so, the main artery of the city, the caravan-street, which ran from West to East from time immemorial was already connected with the temple in the manner in which we see it now in the first century when the arch was built with the special purpose of masking the change of direction of the main city street. However, this and many other points in the general topography of the city must await their solution until the results of the study of the arch by Mr. Amy are published, and probably even until a systematic excavation of the whole of the city is carried out.

One of the most important tasks of the future excavator of Palmyra will be the excavation of the vast complex of buildings south of the main street between the monumental cross street tetrapylon and the above-mentioned triumphal arch. One building of this complex was carefully studied both by the German expeditions and by the talented

French architect Gabriel. This is the theatre of which Puchstein gives in Chapter VIII an interesting plan and a reconstruction of the *scaenae frons*. It is surprising to find a regular theatre of the Western (not Eastern) type at Palmyra. If one takes into consideration how jealously the Palmyrenes stuck to their own language, to their own religion and to their own semi-Iranian style of life, one wonders what kind of performances were given in the theatre. Were the Palmyrenes really fond of tragedies of Euripides and comedies of Menander, of the frivolous mimes and ballets of Antioch and Alexandria? Or was the theatre, as I suggested in my *Caravan Cities* used both for shows and for political purposes (*ecclesiasterion*) and for religious ceremonies. Who knows? At any rate a mystery still surrounds the building. If the theatre as reconstructed by Puchstein on Plates 11 and 19-23 really had three storeys of seats and a two-storied *scaenae frons* why did all the remains of the upper storeys disappear completely? How is it possible that the enormous vaults of the *cavea* of heavy concrete were so utterly destroyed and who did it? Is it not safer to suggest that the *cavea* never had more than one storey and that the theatre had much more modest dimensions? A systematic excavation both of the theatre and of the adjoining square and buildings of which one is generally recognized as a monumental agora (I would rather suggest the name *caravan-serai*) will certainly solve this problem.

As I mentioned before, excellent work has been done by Watzinger and Wulzinger on the various parts of the city of the dead in Palmyra (ch. IX). A very valuable catalogue accompanied by accurate maps of all the funeral towers and temples will be found in the book and alongside it some fine architectural studies of the single monuments, e.g., of the famous funeral temple at the north-west end of the main street (pp. 71 ff. and pls. 38-44). In a special chapter (X) Watzinger studies the main features of the peculiar funeral towers of Palmyra and comes to the tentative conclusion that they are probably of Iranian origin.

Still more exciting is Chapter XI (by Krencker) which deals with the military camp in the north-west corner of the city (pp. 85 ff. and pls. 10 and 45-54). According to the building inscription studied in Chapter XII by Lehner the camp was a work of 293-303 A.D. Explicit as the inscription is, I am inclined to think with Weigand (ch. XVI) that Diocletian and his governor of Phoe-

nia, Hierokles, were not the first to build a military camp in the northwest outskirts of the city. We know now that Palmyra had a Roman garrison as early as the time of L. Verus (and perhaps earlier), and we know that a *praetorium* similar to that of Palmyra arose at Dura in the time of Caracalla. Nothing prevents us, therefore, from assuming that the work of Diocletian consisted in rebuilding an earlier camp of the second century A.D. which at the time when the city wall was built was in one way or another included in the city fortifications. With the camps of Damascus and Dura (and probably the camp at Jerusalem was similar) the camp of Palmyra represents the type of military camp which, like the *castra praetoria* at Rome, were not built in an open area but incorporated into an existing city.

The discovery made by Wiegand of a new temple to the East of the theatre and illustrated by him and by Wulzinger in Chapter XIII is an interesting addition to our knowledge of Palmyra. The inscriptions and especially the *tesserae* of Palmyra show that the two temples which survived the ruin of the city were not the only ones in this deeply religious city. The situation of the temple discovered by Wiegand and its relation to the main street and the temple of Bel, the haram of the city, show that Weigand is probably right in assigning the temple to the first century A.D. However, it may be the temple was an imposing monument. Wiegand suggests that it was the temple of the Syrian goddess, Atargatis. In a special note I will show by means of some clay *tesserae* and fragments of sculpture how important the cult of Atargatis and of her consort, Hadad, was at Palmyra. Bel was the Lord of the city, but its Gad, its Tyche was the North Syrian Atargatis who appears as such in the well-known fresco of the temple of the Palmyrene gods at Dura.

Two chapters (XIV and XV) have been devoted by the late B. Schulz to the two extant temples of Palmyra, that of Baalsamin and the beautiful haram of Palmyra, the temple of Bel or of the Palmyrene triad. Since the temple of Bel has now been freed from the houses which occupied its area and is in process of excavation, we must await the results of these new excavations and of the concomitant study for discussing the reconstructions suggested by Schulz. It must be said, however, that as it stands the study of Schulz is the most detailed and complete work on

the architectural features of the curious building which dominated the religious life of Palmyra.

In a short chapter—the last of the book—E. Weigand sums up the general results of the study of Palmyra and tries to define the position which Palmyrene architecture occupies in the history of art. His fine and detailed analysis is an interesting piece of work. It becomes more and more evident—after his studies and similar studies by Ronczewski—that there was certain influence of Western Italian architecture on the architecture of Syria as early as the first century A.D. This cannot be denied. However, there is no reason for going too far in this direction. I am not convinced at all, for example, that von Gerkan and Weigand are right in assuming that the leading Syrian cities were planned not according to the Hippodamian plan or a still earlier Oriental tradition but according to the plan of the Italian city. We may regard this as not impossible for Palmyra which developed in the first century A.D. (Antioch is still a blank), but what about Dura and probably Seleucia?

We know too little of the Near East to make sweeping generalizations. It is easy to recognize at Palmyra the Greek veneer and the Roman details. Nevertheless, Palmyra remained an Oriental city in its very essence. However, before reaching any conclusions we must await the time when the sheet of sand will be taken from the skeleton of Palmyra and scholars will be able to build up their conclusions on all the material which still lies under the deep sand of the Palmyrene desert. In doing so they will be substantially helped by the German contribution to the study of Palmyra and will be thankful to the German scholars who with their great knowledge and unbounded energy did for Palmyra in a few days more than other scholars were able to do in many months. Our thanks must be also extended to the German Institute for the exceptionally beautiful presentation of the results of the work of the two German expeditions to Palmyra.

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THE EXCAVATIONS AT DURA-EUROPOS CONDUCTED BY YALE UNIVERSITY AND THE FRENCH ACADEMY OF INSCRIPTIONS AND LETTERS. Preliminary Report of Second Season of Work, October 1928–April 1929. Edited by P. V. C. Baur and M. I. Rostovtzeff. Pp. xx+225,

53 pls., 24 figs., frontispiece. Yale University Press, New Haven, 1931. \$3.00.

The excavations of 1928-1929 at Dura-Europos have added materially to the evidence for the history of this strategic and commercial centre on the upper Euphrates. M. Maurice Pellet introduces the report of this campaign with a general description of the discoveries, giving particular attention to the extended investigation of the Palmyrene Gate and its surroundings, to the Tower and Temple of the Palmyrene Gods, and to the Citadel. Interesting conclusions on the history of building at Dura are drawn from the newly discovered facts by Mr. Clark Hopkins. On the Citadel, architectural remains of the Parthian period contemporary with the walls of the Citadel are superposed on walls of the Hellenistic period, some of which possibly belong to a temple. The tower adjacent to the Shrine of the Palmyrene Gods was the site of a cult before the building of the Shrine. The circuit walls of the city are probably to be dated in the Parthian period rather than the Hellenistic, to which M. Cumont assigned them. Mr. Hopkins also presents a careful study of the pottery of the site, distinguishing the following types: (1) a local pottery, unornamented, of fine yellow clay; (2) Hellenistic black glazed ware and Megarian ware; (3) local painted ware made in imitation of the Hellenistic; (4) faience introduced by the Parthians; (5) black and red ribbed ware made under Roman influence. Glass and minor finds are described by Mr. Hopkins. Mrs. Hopkins contributes chapters on stamped and scratched pottery and on coins. The inscriptions are edited in part by Mr. Hopkins and in part by Mr. Jotham Johnson. Many are simple votive graffiti in which a personal name is accompanied by the word *μνησθείς* (the earlier formula, dated in the Parthian period) or *μνησθῆν* (later usage). A small number of Safaitic inscriptions are published by Professor C. C. Torrey. Miss Lillian Wilson writes on the textile fragments. Professor Rostovtzeff and Professor Baur discuss in detail a painted panel discovered in a room of the Palmyrene Gate. On it is represented a winged Nike of familiar Hellenistic type. She stands on a globe, and holds a wreath in one hand, a palm branch in the other. Certain details of the representation assign it to Parthian rather than Greek workmanship. A series of graffiti showing Parthian warriors is also discussed by Professor Rostovtzeff. With Mr. C. B. Welles he also

edits a contract in Greek, written on parchment, giving in detail the terms of an agreement between one Phraates, a eunuch of aristocratic and official family, and a villager named Barlaas. The latter, in return for a loan of 400 silver drachmae, mortgages his property and pledges his personal services for a year. This is the most important legal document of the Parthian period yet discovered.

The Yale expedition is to be congratulated on the promptness and completeness of its report, as well as on the body of expert opinion which it assembles. The reviewer has noted only one misprint (*Zenocrates* for *Xenocrates*, p. 12). The plan of the site (pl. XXX) would be more useful if it were reproduced on a larger scale.

SIDNEY N. DEANE

SMITH COLLEGE

CARAVAN CITIES, by M. Rostovtzeff. Translated by D. and T. Talbot Rice. Pp. xiv+232, with 5 maps and plans, 35 pls. from photographs, and 6 figs. in the text. Oxford, at the Clarendon Press, 1932. \$4.50.

Dr. Rostovtzeff has written a book of a type not yet too familiar to present-day readers. As he himself is careful to stress, the day is not yet at hand when the complete economic story of the caravan trade and the caravan cities of the Near East can be written. In the first place, it must of necessity be studied as a historical sequence, and the details of this factor vital to the economic life of the Sumerian, Babylonian and Assyrian kingdoms are only beginning to be understood. Again, Amman (Philadelphia), Damascus and Aleppo were more important to the caravan trade, respectively, than Jerash, Palmyra and Dura; but the modern towns still block access to the old and we may never be in a position to understand them thoroughly.

Dr. Rostovtzeff's work is, therefore, confined to a general survey of our present knowledge. His first chapter is a compact historical survey of the caravan trade and its importance to the great urban developments of the ancient Near East. In succeeding chapters he discusses in turn the four best-studied caravan cities: Petra, Jerash, Palmyra and Dura. Most important in distinguishing cities of this type are their ground-plans. And although individual conditions—the amphitheater in which lies Petra, the ravines which cut through Dura—do not permit them to fall into an identical pattern, it is nevertheless

possible to reconstruct an ideal plan which each one attempted to approximate. The caravan city, alone among city types, is based upon the caravan trail, a road often older than the city, and forming its axis or "spine." As the city grows, a market-place develops; this consists of an open area comparable to the agora or forum of Mediterranean towns (Petra, Jerash; Palmyra?). But the traveler's first needs on arrival are to discharge, or perhaps to dispose of, his loads and rest his camels, remove the dust of the roads, and propitiate the city-goddess of his hosts—their Tyche. Therefore, beside the forum (in some cases replacing it: Dura?) rises a caravanserai, a large inn adapted to special requirements, where goods may be stored, and beasts stabled, fed and watered. This may be near the gate of principal entrance (Jerash) but is invariably accessible to the caravan trail (Petra, Palmyra). In Roman times, and whenever the water supply permits, room is found for a bath (Petra, Jerash, Dura). The shrine of Tyche may stand at the very gate itself (Petra, Dura).

What remains of the topography is not peculiar to the caravan city. Citadels (Petra, Dura) are not essential; city walls are deferred until comparatively late (Palmyra). The typical great temple, which may also be a commercial centre, belongs to Syrian towns of whatsoever type. Petra and Jerash—Amman also—have Greek theatres; Palmyra and Dura have *bouleuteria*.

The book is eminently readable, from the interest of its subject, the clarity of the translation, and the careful illustration. There are plans of each city and a map of the region, and a long series of drawings and excellent photographs. The statements made are not documented, but there is a good bibliography to guide the student who would pursue the subject further. There are one or two minor misprints. The book is indexed.

We owe Dr. Rostovtzeff a great debt for this book. It provides clear directions for the road over which our future studies must travel, and a clear explanation of the age-old contests for these centres and of the voyage taken by Roman gold in exchange for the products of the East. And it is a book which cannot fail to enchant every reader, traveler, historian or archaeologist.

JOTHAM JOHNSON

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MEMOIRS OF THE AMERICAN ACADEMY IN ROME.
Vol. X. Pp. 182, 60 pl. Italy, 1932.

The first paper is by A. W. Van Buren, who gives us "Further Pompeian Studies." Professor Van Buren's articles are always original and full of suggestive ideas. Here Van Buren follows Ingegnere Luigi Jacono and Professor Giuseppe Spano and discusses an aviary and its equipment in Region VII, Ins. VII, No. 16, a section of Pompeii which had a special interest in the care of birds and which provided six drinking troughs for them. Then follows a discussion of 86 stone missiles preserved from the Sullan bombardment of 79 A.D. To the parallels of stone balls, besides those from Bismya, Pergamum, Dura, and Corinth, might be added unpublished ones at Olynthos. In some cases, however, such round stone balls seem to have had other uses (cf. inscribed ones at Sardis published in Buckler-Robinson, *Greek and Latin Inscriptions of Sardis*, pp. 91-95). On lead sling stones as mentioned on p. 18, cf. also the numerous examples found at Olynthos (*A.J.A.* XXXVI, 1932, p. 138; *Trans. Am. Phil. Assn.* LXII, 1931, p. 56). In section 3 Van Buren puts forward the likely theory that the stone ball in the palaestra at Pompeii was used for "putting the stone" or better "putting the shot," as we generally say. In section 4 Van Buren treats the changes in the famous House of the Vettii and its history, and in section 5 he adds some remarks on the House of Terentius Neo. Della Corte had interpreted the well-known painting in Naples formerly called "Proculus and his wife" as Terentius Neo and his wife, because it was found in House VII, ii, 6. This has been accepted by Miss Swindler, *Ancient Painting*, p. 374, and by most scholars, but the painting dates from the Augustan or Tiberian period, and the owner of the house was active during the latest electoral campaign of Pompeii. Perhaps the father and mother are represented, but Van Buren says that "they are best left nameless." In section 6 Van Buren discusses "The Influence of the Third Style." It was earlier than 63 A.D., and did not strike deep roots. It faded away before the triumphant manifestations of the late fourth style, the true expression of the Neronian and Flavian periods. In section 7 Van Buren suggests a relative chronology of black, then white above it, then white in the closed western aperture in the Villa of the Mysteries. In section 8, he speaks of the traces of a stucco vault and cornice in the House of A.

Trebius Valens and in section 9 of the Porta Vesuvio, which was modernized in rubble construction between 100 and 88 B.C., but not restored in the last period of Pompeii. Section 10 discusses a painted panel of great interest to students of Greek sculpture, especially now that some scholars believe that the Hermes found at Olympia is only a copy of a bronze of Praxiteles. The tree-trunk is omitted, the position of the infant is shifted, and the drapery is blue. Hermes in his upraised right hand dangles a bunch of grapes before the eyes of the babe Dionysus. There is a wreath on Hermes' head, which confirms the idea that the original statue had a metal wreath. This is welcome new evidence for the popularity of Praxiteles' statue at Pompeii, better than that afforded by the Satyr of the Casa di Sallustio and that at the Casa del Naviglio. But many of us will still believe that the Hermes at Olympia is an original and that the Pompeian artist made changes when he adapted the statue to pictorial representation. The last section (11), "Discolored Stucco Walls," shows how the change from yellow ochre to red may be caused not only by fire but by the action of water.

After Van Buren's important studies, to which a useful index is added, follow two scholarly articles by Henry A. Sanders, "The So-Called First Triumvirate" and "Some Inscriptions in Rome." On page 77, $\chi\alpha\lambda\pi\omega\varsigma$ for $\chi\alpha\lambda\pi\epsilon$ is said to be rare, but there are many examples in Asia Minor. The facsimile is inaccurate in the forms of several letters. λ and δ have apices, ϕ has a long vertical bar, but μ is not M, but, as Professor Sanders in the text says, "the curved Egyptian μ ."

Marion Ayer Rubins gives "A New Interpretation of Jupiter Elicius" as the god through whom man could elicit from heaven knowledge of his all-important ritual.

A. M. Harmon and Esther V. Hansen catalogue the "Greek Vases in the Museum of the American Academy," a model piece of cataloguing, though "Mycenaean Third Style" is antiquated terminology.

An article on the "Roman Bath at Leptis Magna" follows with a restoration by George Fraser and text by Van Buren. This well-preserved and valuable bath offers a complement to the much damaged baths of Rome. It observes the older tradition of keeping the main bathrooms close to one side of the available area.

I suggest that the official title of Lepcis be used for Leptis.

Thomas D. Price's "Restoration of Horace's Sabine Villa," Kenneth Johnson's "Terme Nuove at Ostia," and James H. Oliver's "Augustan Pomerium" close the volume, which is one of the best ever issued by the Academy.

DAVID M. ROBINSON

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EEN ROMEINSCH GRAVFELD OP DEN HUNNERBERG TE NIJMEGEN, UIT DEN TIJD VAN TIBERIUS-NERO, by Willem G. J. R. Vermeulen, S.J. H. J. Paris, Amsterdam, 1932. Pp. xiv+274 and pls. xix in a supplementary folder. Florins 5.50.

This book is the second in the series *Bouwsteenen voor een geschiedenis van Nijmegen*, published by the Commission of Curators of Museums and Monuments with the coöperation of the Faculty of the Roman Catholic University of Nijmegen, where it is the author's doctoral dissertation, under the general editorship of Dr. F. J. De Waele.

Father Vermeulen has published in his native tongue, but has kindly furnished thirteen pages of summary in German which enable the foreigner unacquainted with Dutch to orient himself before undertaking a detailed study. From this convenient source we learn that Nijmegen (Nimwegen, *Noviomagus Batavorum*) was first excavated in 1906-07 at points within the modern town by Father Leydekkers, and intermittently since 1916 by J. H. Holwerda. The site was occupied by the fifth, tenth and fifteenth legions, not merely in the time of Tiberius and Nero, but also in Flavian times. Its proximity to Castra Vetera and other considerations exclude the likelihood that the Roman settlement was more than a *castellum* with the accompanying settlement of camp-followers, originally established as a watch on the Rhine and an outpost on the system of military roads.

The plan of the camp of the tenth legion has been recovered, but the main results of the excavation have been furnished by the contents of graves and trenches which give valuable scientific data, although the objects found were not spectacular. A choice exception to this last statement is a well-preserved iron chair of curule form, perhaps a *sella castrensis*, buried in the grave of an important man. Another interesting find is a decorative bronze lock and other remains of a

chest, probably from the mid-first-century grave of a woman. Other bronze personal antiquities, coins and lamps also occur. In general, however, the contents of the graves and trenches consist of pottery, and it is in the classification and study of ceramic categories that the chief value of the book lies. One hundred and thirteen shapes and their varieties are listed, ranging through the classifications of *Terra Sigillata*, Gallo-Belgian pottery (i.e. the red and black wares usually called "Belgian"), glazed pottery, "Nijmegen" ware, lamps, jugs and their related shapes, crude pottery and Germanic pottery, showing various gradations of the influence of Roman ceramics upon the indigenous La Tène culture.

Of these categories the *Terra Sigillata* and Gallo-Belgian wares have the most general interest because of their wide diffusion, because of the practice of stamping them with the manufacturer's name or trade-mark in imitation of the Arretine convention, and because of the prevalent use of reliefs on the exteriors of the former variety. Almost all of the *sigillata* comes from La Graufesenque and its neighborhood, for of Arretine ware there is only one sherd listed, and the fabrics of Lezoux and Rheinzabern are practically unrepresented. We are thus visibly reminded of the early growth of the South Gaulish industry and of its extensive distribution, while at the same time Nijmegen furnishes no data on many of the names most familiar among Gaulish manufacturers whose activity at Lezoux and elsewhere commenced too late for representation on the site. With respect to the potters of La Graufesenque, it is unfortunate that Oswald could not have had this material at hand in the preparation of his recent monumental *Index of Potters' Stamps* (1931), since Vermeulen has been able to correct or supplement the British scholar's chronology and list of shapes at several points, e.g. *Anteros*, *Bissunus*, *Paterclinus*, OFPRM. SC (*Primus Scottius*), *Rogatus* and *Veriugus*. To the general archaeologist the "Nijmegen" ware of the last three decades of the first century will be less interesting than the *terra sigillata*, since it is apparently a local product, but it constitutes the most original contribution of the site and in time may be found occurring elsewhere as well.

As is necessarily the case, the material is presented several times,—by the above-mentioned categories (subdivided into vase-forms), by potters' names, by graves and trenches (sub-divided into inventory numbers), by the plates in the

appended leaflet, and finally by conversion tables enabling one to find his way through the text. Such multiplication of effort is an inevitable misfortune in the presentation of material with so many lines of interrelation, and the author is to be congratulated on making his cross-references so effective and systematic. One might have wished, however, that he had adopted where possible the numbering of vase-forms already made familiar by his predecessors instead of superposing an equivalent system of his own. In a field as complicated as that of the Roman ceramics of northern Europe much is gained by a standard set of reference numbers to vase-shapes, even at the sacrifice of some convenience in organizing one's own publication. To add one more editor's numbers to the standard series of Dragendorff and others is to invite the risk of introducing still further confusion.

The plates include four plans, eight plates of drawings of various ceramic and glass shapes, five plates showing the contents of ten graves, and four plates of decorative reliefs and potters' stamps. These last are photographs of pencil rubbings which are remarkably satisfactory considering the difficulties of rubbing curved surfaces and crude impressions. Drawings in the text supplement the renderings in the plates.

The author has treated his parallels exhaustively and well, and has left few loopholes for argument or correction. But in the bibliography one might have expected to find Atkinson's "A Hoard of Samian Ware from Pompeii" (*Journ. Rom. Stud.* IV, 1914), which deals with *sigillata* of the period and of some of the manufacturers under consideration. The author would have been interested in several parallels and observations. (1) Atkinson (pl. IX, 50) shows an armed Athena by the "Potter of the Large Rosette" cognate with *Nijmegen*, pl. XVII, 10, which is unidentified but is compared with M. Crestio and Crucuro and is certainly not by the "Potter of the Large Rosette." I strongly question Vermeulen's suggestion that the group of which this Athena is a member may be a "free working of the Athena-Marsyas motive." Certainly Atkinson's potter had no such conception. (2) Atkinson's XV, 76 (unsigned) is cognate with *Nijmegen*, XVIII, 8 (type of Mercator). (3) Atkinson's XIV, 73, 74 (Memor) shows winged figures cognate with *Nijmegen*, XIX, 9 (unsigned), described as Cupid by Atkinson and as a Genius by Knorr, either of which is more con-

vincing than Vermeulen's description as a Satyr. (4) While *Nijmegen*, XIX, 6 is not necessarily attributable to the "Potter of the Large Rosette" since Atkinson furnishes no parallels for the foliage and space-fillers, the ovolo suggests him strongly and would have furnished a good addition to Vermeulen's documentation of the date of this sherd, which is "from the last decades of the first century." (5) Momo (so Vermeulen: Atkinson writes Mommo) is represented in the *Nijmegen* illustrations by the small sherd XVII, 9. At least twenty-three and probably thirty-three of his bowls are treated by Atkinson, from which the *Nijmegen* sherd differs in two well-defined stylistic ways, (a) it has an arcade treatment not found in the Pompeii specimens, and (b) the hare under the arcade although designed for horizontal presentation, is set vertically. At Pompeii all Momo's small running animals are properly horizontal. (6) The lettering of the stamp TANDAC F (*Nijmegen*, p. 25, no. 75) shows a fad which appears also in Momo's earliest signatures, which are datable to A.D. 30-50 (Atkinson, p. 31, with references to Ritterling, *Hofheim*). The *Nijmegen* sherd comes from a Claudian (A.D. 40-50) grave, a coincidence in time which would have suggested coincidence of ultimate provenance also, and would have allowed Vermeulen to assign Tandac . . . to South Gaul at least, and probably to La Graufesenque itself. In passing, one should mention that Vermeulen has altered the resolution of this stamp from C. I. L. XIII, 10010, 223, T. *Audaci* (?), to *Tandace* (or *Tandac*?, p. 272). He may be right, but the older reading is in some ways easier; though the point in itself is insignificant, it has an obvious bearing upon the ease of locating the name in an alphabetically constructed list. But these are all minor points, and indeed *Nijmegen*, II, commends itself as an essential and well-compiled unit in the ever-increasing *corpus* that is growing around *sigillata*.

H. COMFORT

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THE DIVINITY OF THE ROMAN EMPEROR, by Lily Ross Taylor. Pp. xv+296, 47 text figs. Philological Monographs published by the American Philological Association, No. I. Middletown, Conn., 1931. \$3.50.

"The Divinity of the Roman Emperor" opens with the Hellenistic prelude to the performance of Julius Caesar and his successors. Alexander

had found in the world he conquered the institution of the absolute monarch whose authority was lifted above human criticism by the recognition on the part of his subjects of his divine or semi-divine nature. The conqueror succeeded in establishing his own rule on a similar basis, and after his death the idea survived as an essential feature of the type of monarchy he had founded. His first successor as world ruler was Julius Caesar, who attempted an empire of the same nature. Caesar, like Alexander, had difficulty in converting his own people to the worship of their ruler, but the strength of the popular feeling roused by his death prepared the way for the claims of his heir. However, Octavian found himself embarrassed by a rival deity. "Ridiculing the divine pretensions of Antony, he had, in order to secure the good will of Italy, to reverse his own course and give up the claim to be the god-king on earth" (p. 139). Without offending Italian feeling, however, he could receive divine honors indirectly through the worship of his genius, and could express the hope of attaining after death to that immortality "virtute parata" which Romulus had won. The later chapters (VII-X) discuss the official cult of the emperor and the adaptation of the details of worship to the local prejudices in different parts of his dominions.

In a study where motives, intentions, and mental attitudes are constantly in question, it is not surprising to find almost as many opinions as there are scholars in the field. Though there may be no final answer to some of the problems of emperor worship, it is helpful to remember that, in some places and times, to worship has meant to perform an act and not to hold an opinion. The author might have disarmed some of her critics if she had made even clearer the suggestion of various passages that divine monarchy was important as a political institution and not as a religious belief. "It is doubtful whether many people in Rome were convinced of the divinity of Caesar at the time of his death" (p. 78). It is even more doubtful whether he cared. The need was rather for works than for faith. The mental reservations with which the Persian noble performed a gesture were not important as long as he was willing by that gesture to make public confession of the king's absolute authority. His behavior had the same practical results as that of the Egyptian to whom the Pharaoh was god. The interesting attempt of the second chapter to find in ideas current in Italy some preparation for the concep-

tion of the god on earth reveals only tendencies so vague that nobody less ingenious than Augustus could have put them to effective use. The language of the Eclogues must still be explained by non-Roman influences (p. 112). Yet the Romans were moved in their opposition to the divine kingship more against the king than against the divinity. "It is clear from contemporary comments in Cicero that the attack was directed against the monarchy itself. The significance of Caesar's divinity lies chiefly in the fact that it was a part of royalty already achieved" (p. 73).

An interesting analysis of Antony's career enlivens the discussion of the crowded years between the assassination of Julius and the final triumph of Augustus. The author clearly takes the stand that Julius intended to be made a god, and that Augustus would have gone further in accepting or even in claiming worship if circumstances had not forced him into moderation. Whether the reader agrees will depend upon his subjective reaction to the evidence, but he cannot complain that the evidence is lacking. Besides the testimony of poets and historians, abundant material from coins, reliefs, and inscriptions is presented, and the opposing views of other scholars are given in notes on controversial points.

LOUISE ADAMS HOLLAND

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EMMAUS: SA BASILIQUE ET SON HISTOIRE, by PP. L.-H. Vincent and F.-M. Abel. Pp. xv+442, with 27 pls. and 114 figs. in the text, 4 to. Paris: Leroux, 1932. 250 fr.

In this splendid publication the Dominican fathers of the École Biblique in Jerusalem describe the results of their excavations in and around the early church of 'Amwās, just off the main highway from Jaffa to Jerusalem. About 1875 this site, known locally as Khirbet el-Kentseh (Ruin of the Church), was purchased by a wealthy French lady for the convent of the Carmelites of Bethlehem. The basilica was then cleared by Captain Guillemot, who was not, of course, a modern archaeologist, and the results of his work were never adequately described.

In the Byzantine period 'Amwās, then called Emmaus or Nicopolis, was regarded as the Emmaus of St. Luke, where Jesus is said to have met with his disciples after the Resurrection. This tradition was never completely forgotten by the Eastern Christians, though the Christians of the

West sought elsewhere for the biblical Emmaus. In the time of the Crusades the Byzantine basilica of 'Amwās was restored, but after the close of the Latin Kingdom it fell into ruins again. The rival claims of the village of el-Qubeibeh, northwest of Jerusalem, to be the biblical Emmaus prevailed, and the Franciscans excavated the ruins of the mediaeval church there, over which a modern church now rises. For the past thirty years the Dominicans have maintained, against the Franciscans, that the Emmaus of the Early Church was situated at 'Amwās, not at el-Qubeibeh. Some Franciscans have even tried to prove that the Roman and Byzantine Nicopolis was located at el-Qubeibeh, but all competent archaeologists and topographers consider the identification of Nicopolis with 'Amwās as completely demonstrated. In the book before us Père Abel has given a new and absolutely definitive proof of this equation.

In 1925 Père Vincent began the methodical excavation of the basilica together with the surrounding terrain. Since he is the foremost living authority on the archaeology of Palestine, it is not surprising that he has secured the most detailed and convincing results, which are fully described in the volume before us. From the standpoint of archaeology, architecture, history, and documentary sources, the work is equally admirable. It is not always that so luxurious a publication is devoted to such scientifically impeccable treatment of a subject.

Père Vincent maintains that the original basilica of Emmaus dates from about the time that Emmaus was made a Roman city, under the name of Nicopolis (A.D. 221). The famous Christian scholar, Julius Africanus, who is said to have been a native of Emmaus, and who was then in residence there, headed the delegation which secured this honor from the emperor Elagabalus. The arguments for a pre-Decian date (i.e., before 249 A.D.) seem historically very strong. The architectural and archaeological argument is somewhat weaker than the historical, but still possesses great force. The strongest support for the early date is provided by the massive masonry, laid without mortar, with precisely the same disposition of blocks as is found in other public buildings of the Roman imperial age, before Constantine. Palestine and Syria furnish a number of remarkably close parallels, all from the second and third centuries. There are numerous basilica ruins from the fourth century and later, but in no

instance is the masonry at all similar. The masonry in the Byzantine churches dating from Queen Helena's time (c. 330 A.D.) is much less massive, is differently laid, and is nearly always set in mortar. The most serious architectural difficulty with so early a date is the triple semi-circular apse, no other example of which can be dated so early. Père Vincent has succeeded in collecting a respectable number of triple apses, contemporary, or earlier, but none of them have developed so far in the direction of the conventional Byzantine basilica form. In view, however, of the fragmentary nature of our documentation, this negative argument is by no means conclusive. In any case, the masonry alone proves that the basilica of Emmaus is older than any other known Byzantine basilica. The authors cite a number of passages from patristic writers which prove the existence of Christian church buildings (pp. 339 ff.) in the early third century. In this connection it may be added that a Christian chapel dating from before 256 A.D. was excavated at Dura during the winter of 1931-2 by Clark Hopkins and his associates of the Yale-Louvre expedition. The remarkable frescoes of the chapel prove that Christian fresco painting had already developed a very respectable variety of subjects, as well as an individual method of treatment. In the light of this parallel material, and the extremely favorable historical situation, it appears that Vincent's view may be accepted, against the one architectural argument from the lack of other basilicas with the same system of semi-circular apses in our available third-century material. Père Vincent's demonstration thus becomes exceedingly important, both for the history of Byzantine architecture and for that of the Christian Church. The basilica of Emmaus merits the title of *mater ecclesiarum* (which is not given it by the authors, we hasten to add).

A word may be said with regard to the archaic Samaritan inscription discussed on pp. 235-7 and 264-5. Père Vincent is a little too vigorous in insisting on the typically Samaritan lapidary character of the script (p. 237, note), and Clermont-Ganneau's first impression that the inscription is written in archaic Hebrew characters is quite natural. No other Samaritan inscription presents such archaic features; the form of the *waw* and *'ayin* is archaic Hebrew, and is not found in any other Samaritan document. Lidzbarski, *Handbuch der nordsemitischen Epigraphik*,

p. 117, dated the inscription in the third or fourth century, though there were no other dated Samaritan monuments for comparison. In 1928 Johannes Pedersen published the oldest dated Samaritan inscription, belonging to the early eleventh century A.D. (*Inscriptiones Semiticae collectionis Ustinowianae*, No. 8). The script is already identical with that of the MSS, aside from the relative lateness of some forms of letters, so that the oldest MSS must be considerably earlier. Moreover, the script of the Emmaus inscription is more archaic in a number of respects than that of the archaizing Hebrew on the coins of Bar Kokhba, dating from about 135 A.D. A date in the Roman imperial age is, therefore, quite reasonable. Père Vincent's historical conclusions are not, however, affected.

We wish to congratulate the authors on their brilliant work which sets a new standard in the publication of Christian archaeological excavation.

W. F. ALBRIGHT

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THE MESOLITHIC AGE IN BRITAIN, by J. G. D. Clark. Pp. 223. Cambridge: The University Press. New York: The Macmillan Company, 1932. \$4.00.

The title of this work is in keeping with that used by Miss D. A. E. Garrod in 1926 (*The Upper Paleolithic Age in Britain*). The Age covered by Clark immediately follows chronologically that covered by Miss Garrod. The two works are complementary and should serve as models for prehistorians who might choose to cover earlier or later Ages in Britain.

The volume begins with a Preface by M. C. Burkitt of Cambridge University. Following the Author's Note, there is a handy Glossary of Some Technical Terms. In the Introduction, the author points out the reasons for employing the term *Mesolithic* rather than the term "Epi-Paleolithic" proposed by Obermaier. Neither does he agree with Menghin, who would include the Mesolithic in his so called "*Miolithic*." The Mesolithic cultures are shown as belonging to a homogeneous whole. They cannot be grouped with the Upper Paleolithic as Menghin would have us do, because the close of the Upper Paleolithic coincides with the passing of the great Pleistocene Era and thus forms, in itself, a very fitting close to an epoch.

Owing to its peripheral geographic position in

relation to the Continent, one would expect to find traces of initial continental impulses and such is the case. True Azilian culture has been found in northwestern Britain. Tardenoisian culture from the Continent reached Britain rather early. Likewise intrusive industries of southeastern Britain can be linked with the Maglemose and Campignian of the Continent.

The relation of Mesolithic industries to those of the Neolithic and Early Bronze Ages in Britain also receives attention. It is evident that the great majority of Mesolithic industries antedate the arrival of the food-producing cultures. However, there are traces of a slight overlapping. The author believes the evidence supports the view that the Neolithic in Britain was of short duration. He is to be congratulated on his treatment of a subject now very much to the fore not only in Britain but also in various other parts of the Old World.

GEORGE GRANT MACCURDY
OLD LYME, CONN.

ARS AMERICANA, by E. Nordenskiöld. Pp. viii+70; pls. 56. Van Oest, Paris, 1930. 350 frs.

ANCIENT CIVILIZATION OF THE ANDES, by Philip A. Means. Pp. xviii+539, 223 illus. Scribners, New York, 1931. \$7.50.

South American ethnology and archaeology lost an earnest student and a spacious critic in the untimely death of Erland Nordenskiöld. In this late review of his *L'Archéologie du bassin de l'Amazonie*, it is fitting to recall the eminent results obtained by the Göteborg ethno-geographical method as developed under the leadership of this Swedish scientist. By plotting distributions in time and place, and tracing the effects of European innovations Nordenskiöld succeeded in presenting the arts and life of the South American Indians as a dynamic stream of invention, acceptance and change. He recovered a nascent science of astronomy in the knotted string records of the Peruvians and brought to light a modern school of picture writing among the Cuna Indians of Panama.

In his special study of Amazonian archaeology Nordenskiöld exhibits his usual breadth of treatment, all the more in demand because of wide gaps in the published record. The ancient ceramic art of the Island of Marajo in the broad mouth of the Amazon is well known from the classic writings of Hartt and Netto but Nordenskiöld has drawn upon the remarkable collections

unearthed by Curt Nimuendajú at Santarem and other sites well up the great river. So far these discoveries have not received the attention they merit, for they go far to demonstrate that the original seat of West Indian culture was along the Amazon and the Orinoco. Nordenskiöld might have gone farther than this and pointed out striking similarities between artistic products of the middle Amazon and those of Nicaragua thousands of miles to the northwest. It is indeed fitting that this volume should be dedicated to Curt Nimuendajú as a tribute from one explorer to another.

The fifty-six plates are admirably selected to cover the wide forest area of Amazonia from the point of view of outstanding regional design. In addition to a general treatment of Amazonian archaeology there is a precise description of the figured specimens and a bibliography.

Most of the recent books on ancient Peru have found their justification either in richness of illustration, making a broad esthetic appeal without much background of instruction, or in the intensive development of small problems in craft and sequence. An exception is *Ancient Civilization of the Andes*, by Philip Ainsworth Means, which covers the archaeology of Peru and adjacent regions in well-rounded fashion—popular without being trivial. No work compares with it since Squier's *Peru* of two generations ago, but much water has passed under the bridge of science since then. After an opening treatment of the geographical layout which has obvious relations to the nature of the civilization developed by the Peruvians, Means handles the sequence of cultures with distinction. To be sure this historical progression is expressed in approximate centuries of the Christian Era and not in absolute chronology and the discussion discloses moot points as regards relative dating for certain local types of ceramic and textile art.

Means gives a good analysis of the various traditions collected by the early Spanish chroniclers thus providing political color to what might otherwise be an abstract demonstration of social change. He makes the higher civilizations of Peru rise from a landing or platform of the generalized Archaic Culture. This seems necessary because of the fact that Peru and Mexico are linked together fundamentally by agriculture and the arts of pottery-making and loom-weaving. It is true that precise similarities in design are hard to demonstrate on this earliest level of

settled life, but the first art in both the Central American and the Central Andean area is unsymbolic while the art of later and more highly civilized type is symbolic but with marked regional differences in the religious ideas which lie behind the significant conventionalizations.

Whether or not the Mayas exercised a diluted civilizing influence on Indian tribes living as far south as Peru has been much discussed. It is at least a suggestive fact, as Means points out, that the more striking likenesses between Central American art, on the one hand, and the art of Ecuador and Peru on the other hand, are seen in products characteristic of the earliest phase of high civilization in the latter area. Personally, I feel that the whole proof of this possible connection has not been presented and that the principal difficulty comes from scanty knowledge of the intervening civilizations of Colombia. Doubtless more work is required.

Means surveys the recent attempts to establish stratigraphy in scientifically conducted excavations in Ecuador, Peru, Bolivia, etc. He is on familiar ground in describing the growth of the Empire of the Incas and in analyzing the political and religious factors of Andean life at the coming of Pizarro. A long chapter is devoted to the art of the loom in which the Peruvians established standards never reached anywhere else in the world. The book is extremely rich in references and documentation and concludes with a good bibliography.

HERBERT J. SPINDEN

BROOKLYN MUSEUM

ETOWAH PAPERS. I. Exploration of the Etowah Site in Georgia, by *Warren King Moorehead*; II. History and Symbolism of the Muskho-geans, by *Charles C. Willoughby*; III. A Study of the Ceramic Art of the Etowans, by *Margaret E. Ashley*; IV. Comparison between Etowan, Mexican and Mayan Designs, by *Zelia Nuttall*; V. Molluscan Shells from the Etowah Mounds, by *Frank Collins Baker*. Pp. ix+178. New Haven. Published for Phillips Academy (Andover, Mass.) by the Yale University Press, 1932. \$4.00.

Careful researches in field and study have combined to produce in this volume the most important work on the archaeology of the southeastern United States since Clarence B. Moore closed his long series of Reports. A brief opening chapter covers the known history of this famous mound-

group, situated upon the Etowah River in the northwest corner of the state of Georgia; the geology of the section; and the circumstances of excavations during the winters of 1924-1925. Then Professor Moorehead surrenders the pen to Mr. Willoughby.

It is indeed fortunate that the practical knowledge and ripe scholarship of the Director Emeritus of the Peabody Museum, Harvard, have been called to the elucidation of the many problems which Etowah presents. Mr. Willoughby traces the route of De Soto's expedition and concludes that his army passed to the east of the site. He discusses the domiciliary mounds, the temples and their contents, the mortal remains and the mortuary statues of departed chiefs. These portraits in stone, evidently made after death, to be kept in the temple, were, upon occasion, buried, even as the corpse they represented. One statue was in fact found in a stone grave, such as was given to mortals of rank.

In contrast to these images, the figures on the famous copper plates of Etowah show the liveliest action of the Eagle-man performing the victory dance. Among the plates recovered by the Phillips Academy expedition were two more of these Eagle-man figures and a portrait head. With the cumulative evidence, Mr. Willoughby has established that two individuals are represented in life and as trophy heads carried each by the ceremonial dancer of one of the plates. These plates—and with them should be included the portrait head on copper found by Mr. Moore at Henry Island, Tennessee River, Alabama—are thus not merely ceremonial, but actual historical records. Mr. Willoughby goes further and identifies the paraphernalia, linking them with known examples and representations in copper and upon pottery from Etowah and from Moundville, Alabama.

No less interesting are the engraved shell gorgets, showing the Eagle-man again grasping the trophy head or warring with his double. A curious feature is the addition of antlers to the heads of several of the bird-man figures—an item apparently taken over from the winged and antlered serpents so frequently shown in the fictile art of Moundville. Other shell gorgets show paired birds, the spider or the coiled rattlesnake characteristic of the Tennessee River art. The swastika, sun and world symbols found representation in copper, on pottery, and on a rare fragment of cloth preserved by contact with copper.

Mr. Willoughby concludes that the Etowah culture represents the high-water mark of the prehistoric Muskogean, extending from the Atlantic to beyond the Mississippi River, and from the Gulf to beyond the Ohio: that there is evidence of two periods in the construction of the earthwork, and that at the time of its abandonment the great mound, occupied by the chief's house, was in process of enlargement.

In the succeeding section Professor Moorehead resumes the narrative, giving detailed accounts of the stone cist graves, occasional cremations and the temple mound, built upon and coalescing with a number of small burial mounds. Notable were the finds of a monolithic axe of limestone, a copper axe with part of the helve attached, and long flint swords or batons. It is doubtful if the objects represented in Figure 57, e to j, are labrets; rather are they ear-studs. The village site on the bottomland yielded little of art save rattlesnake shell gorgets, beads and small clay heads.

Miss Ashley's study reveals the Etowans as but indifferent artists in clay. A few whole vessels and many sherds show a rather coarse paste modelled into forms without distinction, sometimes plain, sometimes with incised or stamped decoration in zigzag, interlocking scroll, plaited cross, or basketry pattern. Two long-necked bottles were decorated by negative painting, and a few sherds of slipped or painted ware, strewn over the village site, testify to its occasional use.

It is fitting that Mrs. Nuttall should add "Some Comparisons between Etowan, Mexican and Mayan Designs." A strong suggestion of Mexican influence upon the culture of Moundville and Etowah has long been recognized, but it has been left to this eminent Mexicanist to attempt to render it concrete. Yet her enthusiasm has—in the opinion of this reviewer—led her in some instances to read into the text more than lies in the picture. Man will dance with uplifted feet and man will mask after his notions of the animal world; his breech-clout, whether of cloth or leather, may be fringed, especially if he depicts a feathered being. Mr. Willoughby has shown that the club or baton in the hand of the Eagle-man had its affinity to the ancient wooden object preserved in the muck of Key Marko, and hence is not an atlatl or throwing board. Even less tenable is the thought that the two- or three-pointed eye-design of bird and serpent delineation in the art of the Muskogean region is to be in-

terpreted as equivalent to the two tears dropping from the eyes of the Mexican's vanquished foe. Not only does the lively dancing eagle-man of the Etowah plates and gorgets wear this symbol but it is painted around the eye of the living conqueror whom Mrs. Nuttall reproduces (fig. 92b) from Codex Nuttall.

It is regrettable, but understandable, that although she has delved so richly and profoundly into her chosen field, the products of workers in other regions have escaped her ken. No archaeologist familiar with the primitive copper work of the eastern United States could hold today that "metallic tools, such as were introduced by the conquerors, were used to incise the gorgets." Mr. Willoughby, with authority, has already refuted this antiquated thesis (p. 45). Moreover, the evidence is directly contrary to the "conjecture that the explanation of the undeniable affinity may be the migration, at that period (after 1520), of an organized band of voluntary exiles, under the leadership of a bold 'eagle-warrior' or 'captain-general,' a high priest and other chieftains of whom, or of whose descendants, the Etowah finds are tragic mementoes." Both at Etowah, and especially at Moundville, where the culture reached in certain phases—sculpture in hard stone and designs on pottery—a much higher level than at Etowah, the settlement long antedated contact with Europeans. Mexican influence, if it existed, must have come at a much earlier and formative period.

Lack of space alone imposes the mere mention of Dr. Baker's valuable paper upon the Molluscan Shells of Etowah.

Professor Moorehead resumes the narrative with descriptions of contiguous and related sites and concludes with a summary of the distinctive elements of Etowan culture: excellence of ceramic art, copper, sculpture in shell, problematical forms in flint, monolithic axe, clay effigies, stone images, stone slab sarcophagi. Most of these elements were found in the older and larger settlement at Moundville; some were more perfected, the latter two alone were lacking there. It is appropriate that the culture should bear an Indian name, derived from the site which first brought it to notice. Mr. Moorehead's theory of origin postulates an early migration from Yucatan to Cuba and the West Indies, eventually landing in Florida, bearing elements of West Indian culture also, and pushing northward and westward.

The work concludes with a valuable, though

brief, discussion by Mr. Peter A. Brannon of Etowan culture in Alabama.

H. NEWELL WARDLE

ARCHAEOLOGY OF THE ARKANSAS RIVER VALLEY, by Warren King Moorehead, with supplementary papers on THE PREHISTORIC CULTURES OF OKLAHOMA, by Joseph B. Thoburn, and THE EXPLORATION OF JACOBS CAVERN, by Charles Peabody. Department of Archaeology, Phillips Academy, Andover, Mass. Pp. x+205, 76 figs., 11 pls. Yale University Press, New Haven, Conn., 1931. \$4.00.

The valleys of the Arkansas River and its tributaries which drain Arkansas, Oklahoma, northern Texas, southern Kansas and eastern New Mexico, traverse a region unspectacular to view, though of considerable importance for American archaeology, inasmuch as they form the highways by which any influences or migrations between the Pueblo region of the American Southwest and the Mound region of the Mississippi Valley must have traveled. Such influences or migrations are by no means certain or proved, and intensive and careful archaeological investigations in this region are primary requisites for the solution of this important problem. In the forested region near the mouth of the Arkansas are found typical Mississippi Valley mounds; the sources of some of the affluents, especially the Canadian, lie close to the Pueblo region, and on them are found ruins of Pueblo type. On the middle reaches, especially on the Canadian in the Panhandle region of Texas, is found a unique culture, apparently a blend of Pueblan and Plains elements. Further downstream in the Ozarks are the caves of the Bluff-dwellers. The cultural and temporal relations of these peoples form an important problem.

The author was one of the first archaeologists to investigate this region and has excavated in all sections of it. The book contains not only the report of his personal excavations but digests of those of all other investigators in these regions, and is the first work thus to compile the results of the scattered monographs, relatively few in number, which treat of this neglected but important region.

Important though the book is, with its many illustrations, for source material, especially as regards the slightly known regions of northern Texas, Oklahoma and Kansas, the author has shed little light upon the temporal and cultural relations of the various groups, a question which still needs elucidation.

The last appendix, on the exploration of Jacob's Cavern in Missouri, is a reprint of Bulletin I, published by Phillips Academy in 1904.

J. ALDEN MASON

UNIVERSITY MUSEUM,
Philadelphia, Pa.

ARS ASIATICA—PEINTURES CHINOISES ET JAPONAISES DE LA COLLECTION ULRICH ODIN. Paris: Van Oest, 1929.

The catalogue of the Chinese and Japanese Paintings from the collection of Ulrich Odin is distinguished by the charming introduction to Far Eastern painting by Mr. Odin and by the modesty of his attributions. Fine as they appear to be, the Chinese paintings are not the most important of the Odin collection, which may better be considered one of the very few interesting collections of Japanese paintings in private hands outside Japan. The range of material is interesting. There are examples of almost every type of painting from early Buddhist and Taoist subjects (such as the lively painting of palace hostlers subduing a horse, traditionally attributed to Nobuzane) through the landscape school of Soami, Sesshu, Sesson and Tanyu to the Kōyetsu-Kōrin school, with a painting of stag and doe attributed to Kōrin which seems lively enough in reproduction to be close to the work of the master, and finally to the Ukiyoe school with its charming ladies, refined and vulgar.

ALAN PRIEST

METROPOLITAN MUSEUM OF ART

ROGIER DE LA PASTURE, by Jules Destrée, in two vols., illustrated. Paris et Bruxelles, Les éditions van Oest, 1930. 550 frs.

In treating the much vexed problem of the work of Rogier de la Pasture, the veteran critic Jules Destrée follows a very conservative course. As against the view vigorously pushed by General Renders that everything usually ascribed to Campin is the early phase of Rogier, as against the German critics who lop off the softer later work in the interest of an entirely unproved "Roger of Bruges," Destrée maintains the integrity of what has become the traditional list. These issues remain *sub judice*, but in the opinion of your reviewer the new hypotheses have not been sufficiently supported. As to a number of new attributions by Dr. Friedländer, M. Destrée remains skeptical, and he questions a number of portraits that are generally accepted. Since the

publication of this work, the Boston version of the Madonna with St. Luke has been cleaned, with the result of revealing it as the original of the series. The terse and orderly character of M. Destrée's text deserves all praise.

To serious students the second volume devoted to plates will be treasure trove. There are nearly two hundred, of good scale and best execution, with those numerous details without which sound stylistic comparisons are impossible. Since the existence of a Tournai school has been challenged, one welcomes the publication of many sculptures just before Rogier's time which attest a local style. Manuscript miniatures are also reproduced, and afford interesting parallels with the work of Rogier. Everything is admirably calculated for the student's need.

The general estimate of Rogier is that of a hero-worshipper, and the reader may profitably compare therewith Roger Fry's recent article in the *Burlington Magazine* (Sept. 1932) in which, while admitting Rogier's greatness, he remarks his lack of painterlike quality.

FRANK JEWETT MATHER, JR.
PRINCETON UNIVERSITY

THE ISAAC MASTER: A RECONSTRUCTION OF THE WORK OF GADDO GADDI, by *Frank Jewett Mather, Jr.* Princeton University Press, Princeton, N. J., 1932. \$10.

Professor Mather's book, like anything that comes from his pen, is searching and scholarly. It is, moreover, exciting. Its frankly expounded thesis is the rehabilitation of an artist to whom the author thinks an injustice has been done. This gives it an inevitable *tendenz* but as inevitably stimulates the reader, whether or not he approves or accepts the thesis. The ordinary human likes a fight and Professor Mather's book, however learned and dignified, injects us into a vigorous fight to raise the reputation of the famous but shadowy Gaddo Gaddi.

The first chapter gives us a careful account of the frescoes by the artist who has come to be known as the Isaac Master, in the Lower Church of Saint Francis at Assisi. The exact analysis of his works was made possible primarily by use of extraordinarily accurate and detailed photographs. The author discusses the frescoes from the point of view of general aesthetic and technical detail. He thus establishes the broad importance of the artist and the originality of his style and method, demolishing, one feels quite

successfully, the attribution of the frescoes to the Roman Cavallini. The next step is a comparison of the frescoes in Assisi with the mosaics on the façade of Santa Maria Maggiore in Rome. These Professor Mather divides into the work of two artists—the upper and weaker portion by Rusuti; the lower, by comparison with the frescoes at Assisi, designed by the Isaac Master. Incidentally, many years ago, Calvalcaselle had suggested that the author of the frescoes at Assisi and Gaddo Gaddi were one. Professor Mather then goes on to discuss the credibility of Vasari's statement that Gaddo was the author of the mosaics in Rome. He finds no evidence to make him doubt it and much to support it. The third portion of the argument concerns the mosaics of Gaddo Gaddi at Florence, in the Cathedral and in the Baptistry, and compares these to the works in Rome. The author's conclusion is that Gaddo is the author of the mosaic of the Coronation of the Virgin for the Cathedral of Florence and certain of the finer mosaics, heads of prophets and Bible stories, in the Baptistry of Florence. These, he asserts, are by the author of the mosaics on the lower façade of Santa Maria Maggiore in Rome who, in turn, can be identified with the painter of the Isaac series in Assisi. The Isaac Master is, therefore, Gaddo Gaddi, who takes his place not as a vague mosaicist, but as a progressive in that medium and what was to become the vastly more important one of fresco.

The burden of this Valley of Vision is woe to Cavallini. The great Roman was ignored a generation or two ago, then rediscovered and raised to an exalted place in Italian art. He was considered a great innovator, comparable to Giotto, perhaps the inspirer of the Florentine School, and certainly the exponent of the Latin, or native Italian, tradition as opposed to the Byzantine. This irritates the champion of the Isaac Master. Doubtless the importance of Cavallini has been overemphasized, but few will agree with Professor Mather's estimate that he merely "shows that happy decorative and tender and static idealism that was soon to be characteristic of the painters of Siena," or that he "belongs to the champions of causes already lost, with the Duccios, Lorenzo Menacos, Granaccis . . ." or that "the idea that Giotto learned, or could learn, anything from the painter of the frescoes of Sta. Cecilia, is one of the most grotesque delusions that has ever imposed itself upon the infinitely gullible race of historians of art." Had the author been content to prove

that the techniques of Cavallini and the Isaac Master were dissimilar and that, therefore, the two painters could not have been the same, we could have followed him. Any one who remembers, however, the beauty, the dignity, and—at the risk of contradicting a learned author—the originality of the frescoes in Sta. Cecilia in Trastevere will find the abasement of Cavallini unjustified. One could write as eloquently to prove that Giotto could have learned both from the Isaac Master and Cavallini.

The inevitable weakness of the book is the necessity of comparing frescoes with mosaics. This the author has done with consummate skill. At best, however, the reader has to take many of his statements on faith. The drawing of a mosaic is so different from that of a fresco, the question of color enters to such an inordinate degree, that black and white illustrations are unusually unsatisfactory in testing the argument. The ultra-conservative reader will probably never be convinced until some definite fragment of painting can be proved to be by Gaddo and can then be compared with the frescoes at Assisi.

The make-up of the book is excellent. The printing is crisp and clear; the illustrations, extraordinarily good. As in the case of Professor Nicholson's "Cimabue," we might deplore the consecutive arrangement of text, notes and illustrations, but if, in the interest of economy, this was imposed to attain so fine a printing and illustration, the arrangement can be forgiven. The text is singularly free from slipshod errors of proof-reading. The reviewer noted only one: the statement, on page 33, that Rusuti and the Isaac Master came to Rome "after 1926" instead of "after 1296." A slip like this may amuse, but certainly could not confuse, and it is perhaps captious to call attention to it.

The style of the volume, like all of Professor Mather's writings, is delightful. His description of the process and routine of frescoing the upper church at Assisi (p. 12) makes one an eye-witness of the creation of a work of art in the thirteenth century. His Chapter X, "Résumé and Synthesis," proves that a learned author can write in a literary and easy way the results of a painstaking piece of research. The whole spirit of the volume is a relief to readers accustomed to perus-

ing such books as, let us say, Van Marle's "The Italian Schools of Painting."

One question must be faced. Does the author prove his point? Can we be certain that the Isaac Master and Gaddo Gaddi were the same? Probably not, in the mathematical sense, but the author's arguments are very convincing. Though his thesis is still somewhat conjectural, the strong presumption is that Gaddo painted the great series at Assisi. Professor Mather, mentioning Cimabue and Giotto, states that "this book is written to prove that Gaddo Gaddi not merely was in such high company, but belonged to it." This we feel he has done.

G. H. EDGELL

HARVARD UNIVERSITY

DAS BILD CHRISTI IM WANDEL DER ZEITEN, by Hans Preuss. Pp. 148, pls. 137. U. Deichertsche Verlagsbuchhandlung D. Werner Scholl. Leipzig, 1932. RM 380.

This is the third edition of *Das Bild Christi* which first appeared in 1915 with 113 plates and in 1921 with 115 plates. The illustrations include representations of Christ in sculpture, mosaic and painting from the third century to the present time. The examples of such modern artists as Josef Wackerle, Ida Ströver and Ludwig Fahrenkrog show similarity of style to the extent of strong powerful rendering and essential ugliness. They find their closest counterparts in the realistic interpretations of the German school of the sixteenth century (pls. 57-53).

Only characteristic examples of the various schools are illustrated. The Italian and German schools are the evident favorites of the author. It is a pity that the Spanish school is so summarily treated with only four examples to its credit. These include an El Greco, more in the Italian than the Spanish manner, of Christ Healing the Blind Man, in the Parma Gallery, a Ribera, a Velasquez and one sixteenth century head of Christ in ivory.

Each illustration is accompanied by a short descriptive text. The book is undoubtedly a useful one for students of the history of art, but would be far more valuable if it were more complete.

KATE MCK. ELDERKIN

PRINCETON, N. J.

ABBREVIATIONS

The following abbreviations of the titles of periodicals will be used in the JOURNAL, other titles being uniformly abbreviated (cf. *A.J.A.*, 1925, pp. 115-6):

- A.A.S.O.R.*: Annual of the American Schools of Oriental Research.
A.J.A.: American Journal of Archaeology.
A. J. Num.: American Journal of Numismatics.
A. J. Sem. Lang.: American Journal of Semitic Languages and Literature.
Ant. Denk.: Antike Denkmäler.
Ann. Scuol. It. At.: Annuario della r. Scuola Archeologica di Atene e delle Missioni Italiane in Oriente.
Arch. Anz.: Archäologischer Anzeiger.
Arch. Eph.: 'Αρχαιολογική 'Εφημερίς.
Ath. Mitt.: Mitteilungen d. k. d. Archaeol. Instituts, Athen. Abt.
Boll. Arte: Bollettino d'Arte.
B.A.S.O.R.: Bulletin of the American Schools of Oriental Research.
B.A.S.P.R.: Bulletin of the American School of Prehistoric Research.
B.S.A.: Annual of the British School at Athens.
B.S.R.: Papers of the British School at Rome.
B.C.H.: Bulletin de Correspondance Hellénique.
B. Metr. Mus.: Bulletin of the Metropolitan Museum of Art, New York.
B. Mus. F. A.: Museum of Fine Arts Bulletin, Boston.
B. Com. Rom.: Bulletino d. Commissione Archeologica Comunale di Roma.
Byz. Z.: Byzantinische Zeitschrift.
C. R. Acad. Insc.: Comptes Rendus de l'Académie des Inscriptions et Belles-Lettres.
C.I.A.: Corpus Inscriptionum Atticarum.
C.I.G.: Corpus Inscriptionum Graecarum.
C.I.L.: Corpus Inscriptionum Latinarum.
Gaz. B.-A.: Gazette des Beaux-Arts.
I.G.: Inscriptiones Graecae.
Jb. Arch. I.: Jahrbuch, d. k. d. Archäol. Instituts.
Jh. Oest. Arch. I.: Jahreshefte des oesterreichischen Archäologischen Instituts.
J.A.O.S.: Journal of the American Oriental Society.
M. Am. Acad. Rome: Memoirs of the American Academy in Rome.
M. Soc. Ant. Fr.: Mémoires de la Société des Antiquaires de France.
Mitt. Or. Ges.: Mitteilungen der deutschen Orient-Gesellschaft.
Mon. Ant.: Monumenti Antichi (of Accad. d. Lincei).
Mon. Piot: Monuments et Mémoires pub. par l'Acad. des Inscriptions, etc. (Fondation Piot).
Mün. Jb. Bild. K.: Münchner Jahrbuch der bildenden Kunst.
Mus. J.: The Museum Journal of the University of Pennsylvania.
Not. Scav.: Notizie degli Scavi di Antichità.
P.E.F.Q.S.: Palestine Exploration Fund Quarterly Statement.
Q.D.A.P.: The Quarterly of the Department of Antiquities in Palestine.
R. Arch.: Revue Archéologique.
R. Art Anc. Mod.: Revue de l'Art ancien et moderne.
R.B.: Revue Biblique.
R. Ép.: Revue Épigraphique.
R. Ét. Anc.: Revue des Études Anciennes.
R. Ét. Gr.: Revue des Études Grecques.
Rh. Mus.: Rheinisches Museum für Philologie, Neue Folge.
Röm. Mitt.: Mitteilungen d. k. d. Archäol. Instituts, Röm. Abt.
Röm. Quart.: Römische Quartalschrift für christliche Altertumskunde und für Kirchengeschichte.

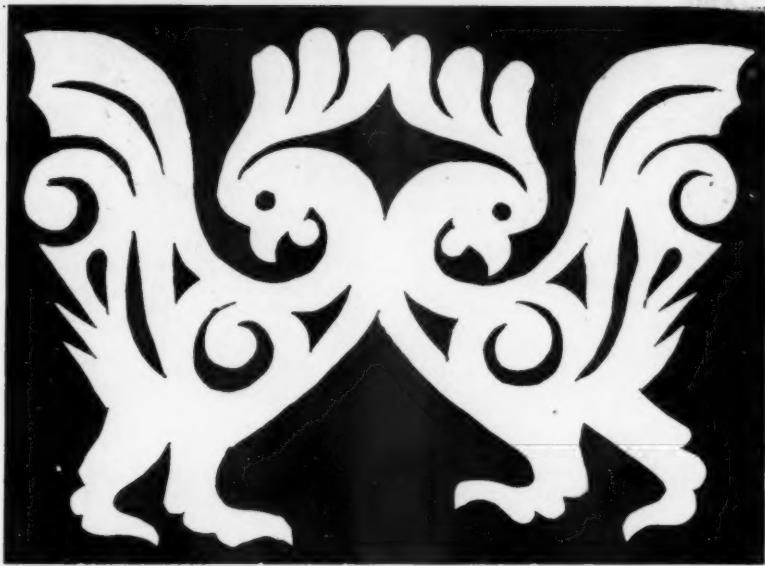
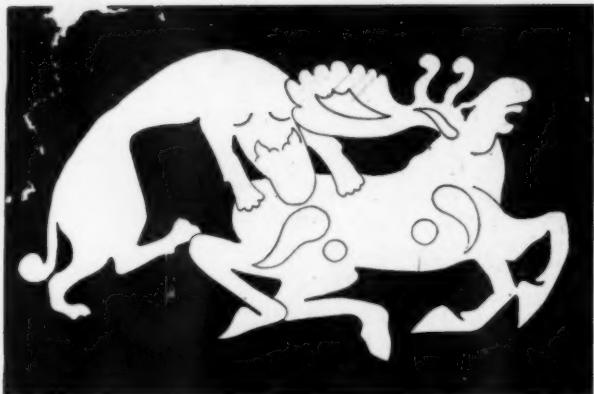
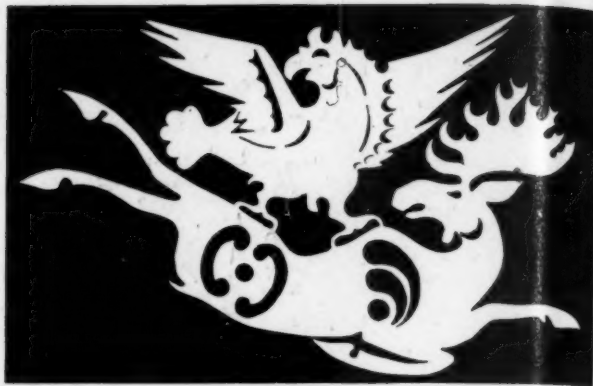


PLATE I.—ORNAMENTS OF GILDED LEATHER FROM RIM OF SARCOPHAGUS



A



B



C



2



1

D

PLATE II.—A B C. MOTIVES FROM SADDLE COVERS. D. BIRD MOTIVES USED BY NATIVE AMUR TRIBES (AFTER LAUFER)

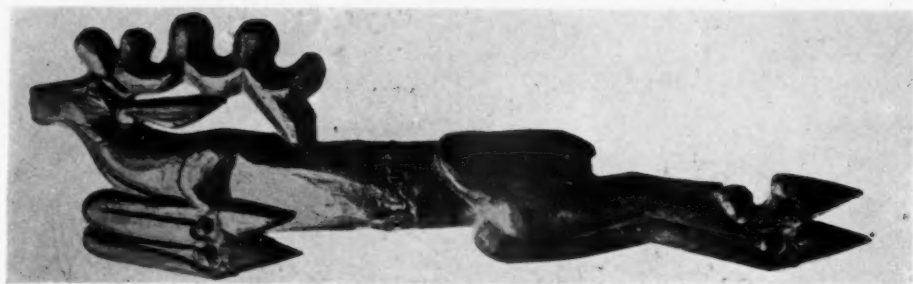


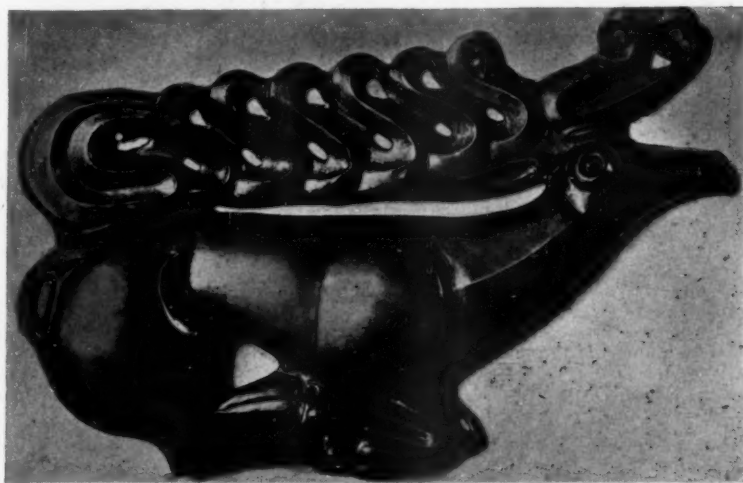
PLATE III.—DECORATIONS OF WOOD ON BRIDLES OF PAZIRIK HORSES. ANIMAL MOTIVES



PLATE IV.—CARPET OF WOVEN WOOL WITH MULTICOLOR APPLIQUÉ. GRIFFIN AND ELK. FOUND BY
KOZLOV EXPEDITION IN MONGOLIA (AFTER BOROVKA)



A. ORNAMENTAL PLATE OF CARVED WOOD FROM SIBERIA
(AFTER BOROVKA)



B. ORNAMENT FROM A SHIELD (?). CHASED GOLD. FROM KOSTROMSKAYA.
STANITZA, KUBAN DISTRICT
(AFTER BOROVKA)

PLATE V

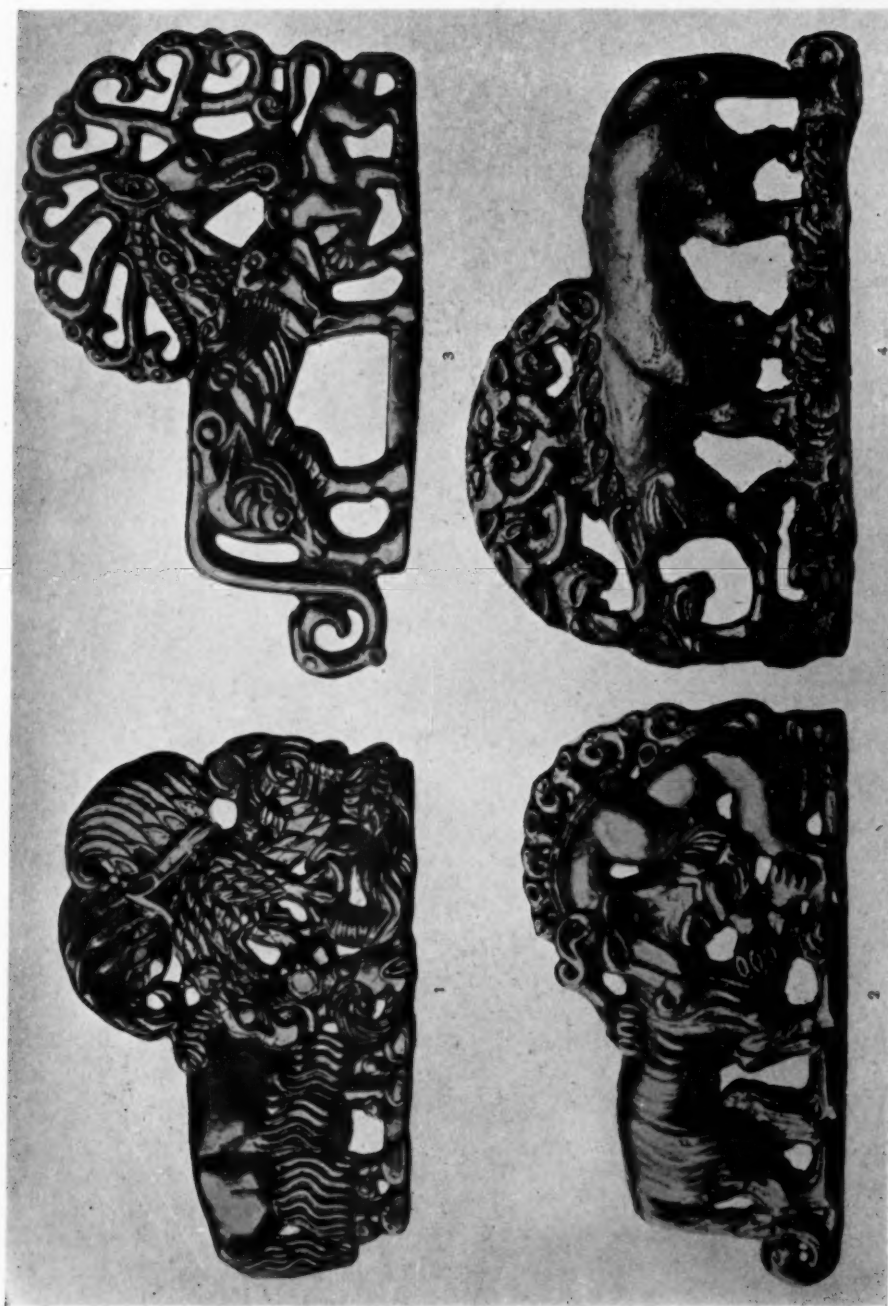
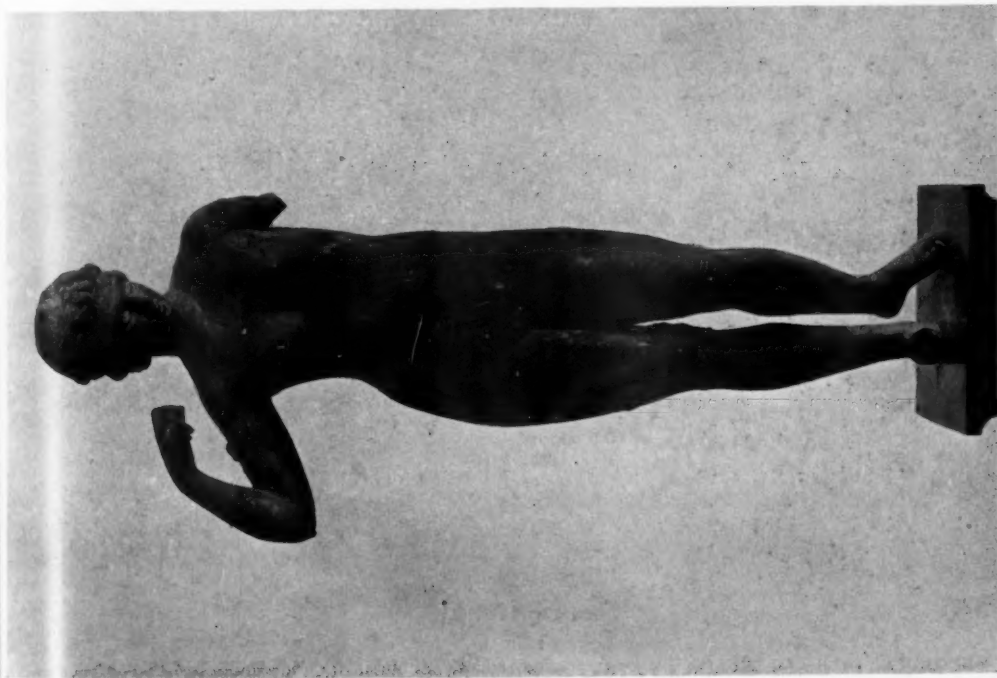
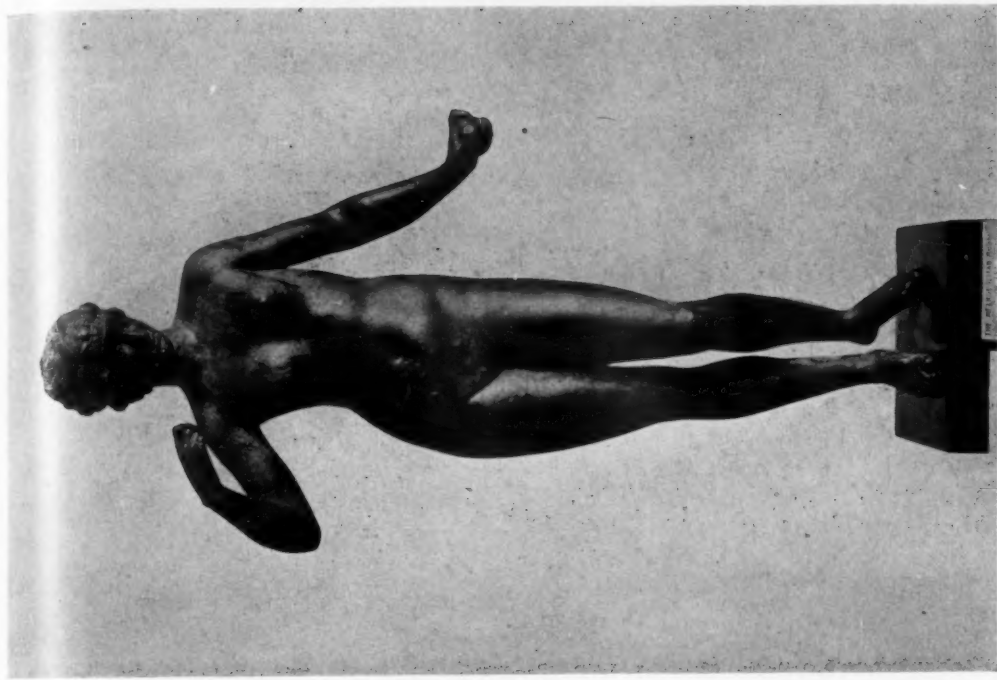


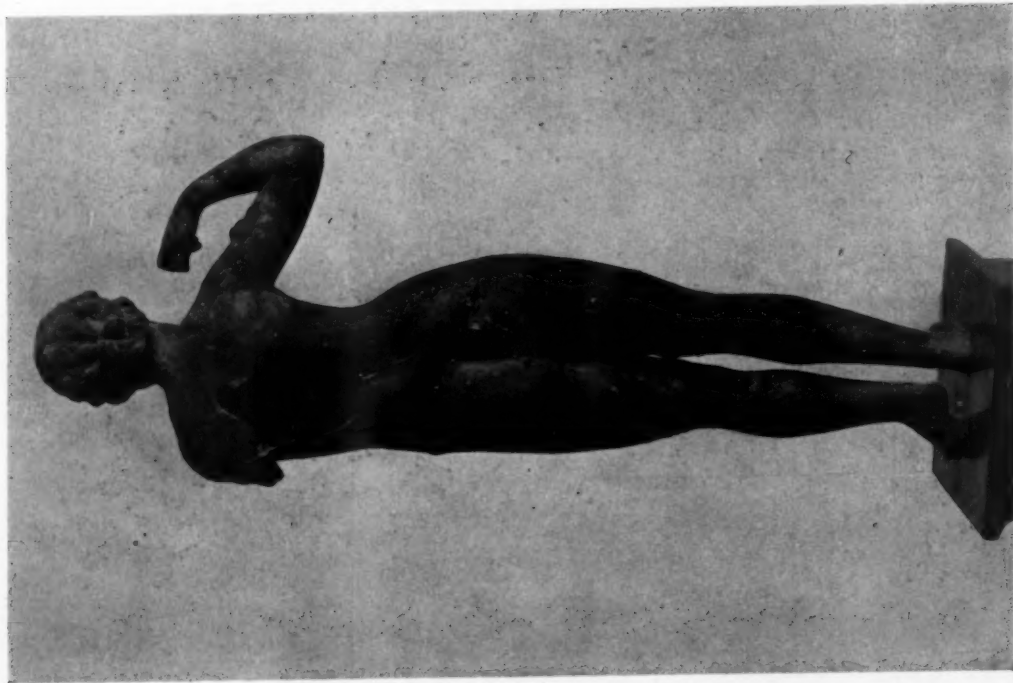
PLATE VI.—GIRDLE CLASPS OF GOLD, SOME INLAID WITH TURQUOISE AND CORAL (?), SIBERIA
 (From the photographs of the State Hermitage)



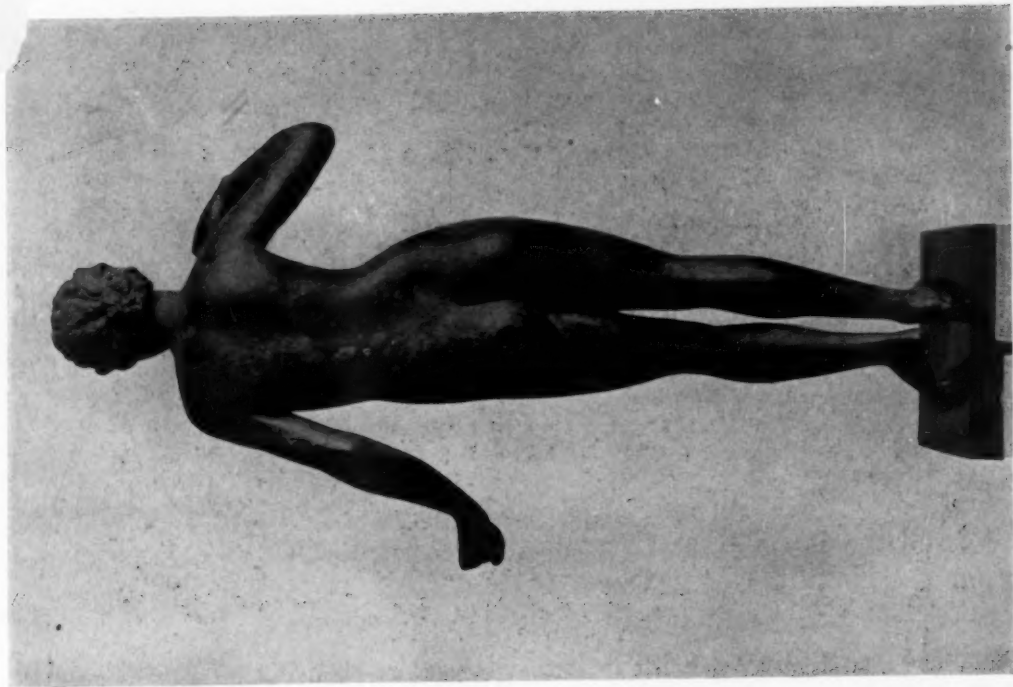
A. BRONZE STATUETTE, GREEK FOURTH CENTURY B.C. ON LOAN AT THE METROPOLITAN MUSEUM OF ART. THE LOWER HALF OF THE LEFT LEG IS RESTORED



B. BRONZE STATUETTE, ROMAN COPY OF A GREEK WORK OF THE FOURTH CENTURY B.C. RHODE ISLAND SCHOOL OF DESIGN, PROVIDENCE, R. I. THE LEFT ARM AND THE LOWER PART OF THE RIGHT LEG ARE RESTORED



A. BACK VIEW OF STATUETTE ILLUSTRATED IN PLATE VII, A



B. BACK VIEW OF STATUETTE ILLUSTRATED IN PLATE VII, B



PLATE IX.—REPRESENTATIONS OF HADAD AND ATARGATIS



1. GRAVE STELE OF C. ATTIVS

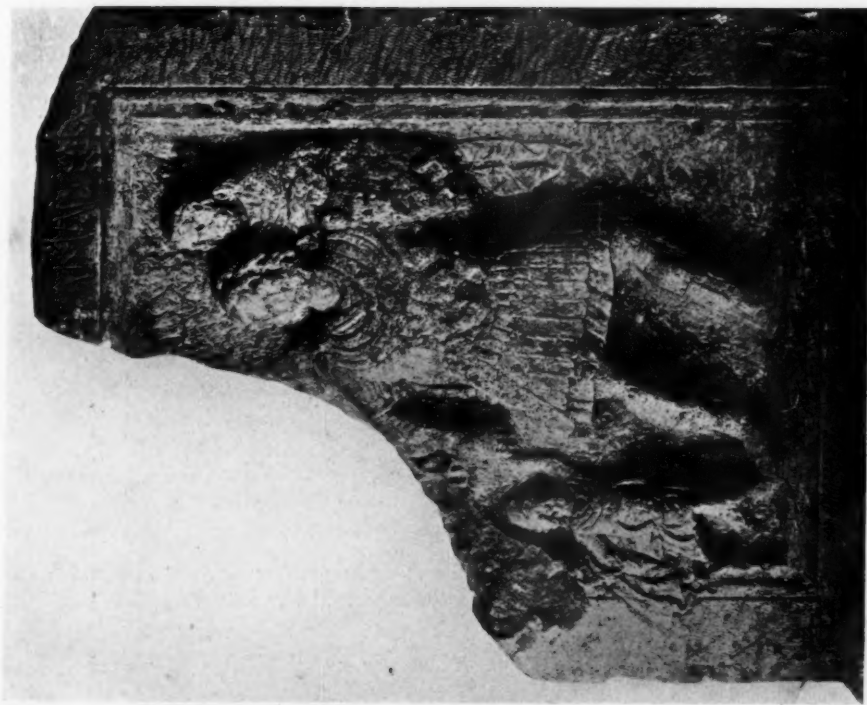


2. THE PANNONIAN HORSEMAN



3. GRAVE STELE

PLATE X.—BUDAPEST MUSEUM. GRAVE STELAE



1. AENEAS ESCAPING FROM TROY



2. BELLEROPHON SLAYING THE CHIMAERA

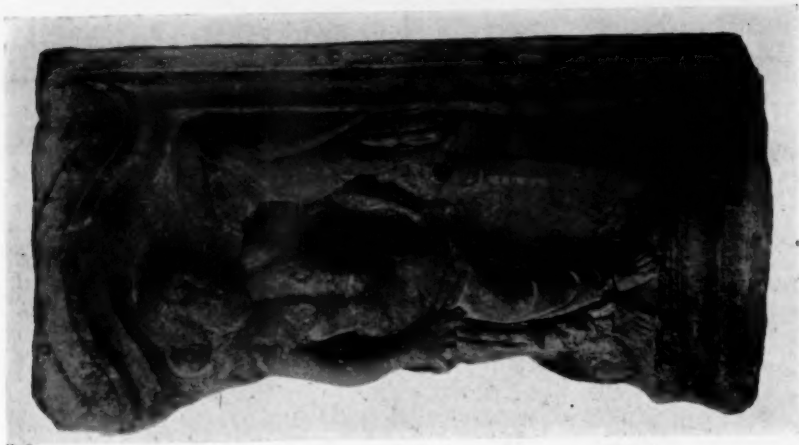
PLATE XI.—BUDAPEST MUSEUM. GRAVE RELIEFS



1. OEDIPUS AND THE SPHINX



2. GANTMEDE



3. LEDA AND THE SWAN

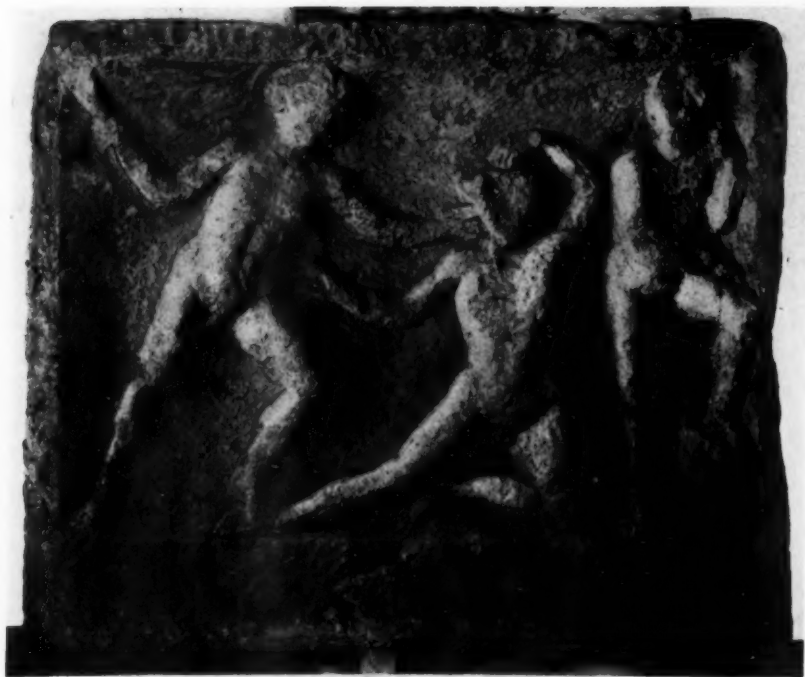


1. PERSEUS SLAYING MEDUSA. ATHENA STANDING BY



2. IPHIGENIA BROUGHT BACK FROM TAURUS

PLATE XIII.—BUDAPEST MUSEUM. GRAVE RELIEFS



1. THESEUS SLAYING THE MINOTAUR



2. THESEUS AND ARIADNE

PLATE XIV.—BUDAPEST MUSEUM. GRAVE RELIEFS



1. APOLLO, MARSYAS, AND THE SCYTHIAN WHETTING HIS KNIFE



2. HERAKLES RESTING FROM HIS LABORS

PLATE XV.—BUDAPEST MUSEUM. GRAVE RELIEFS



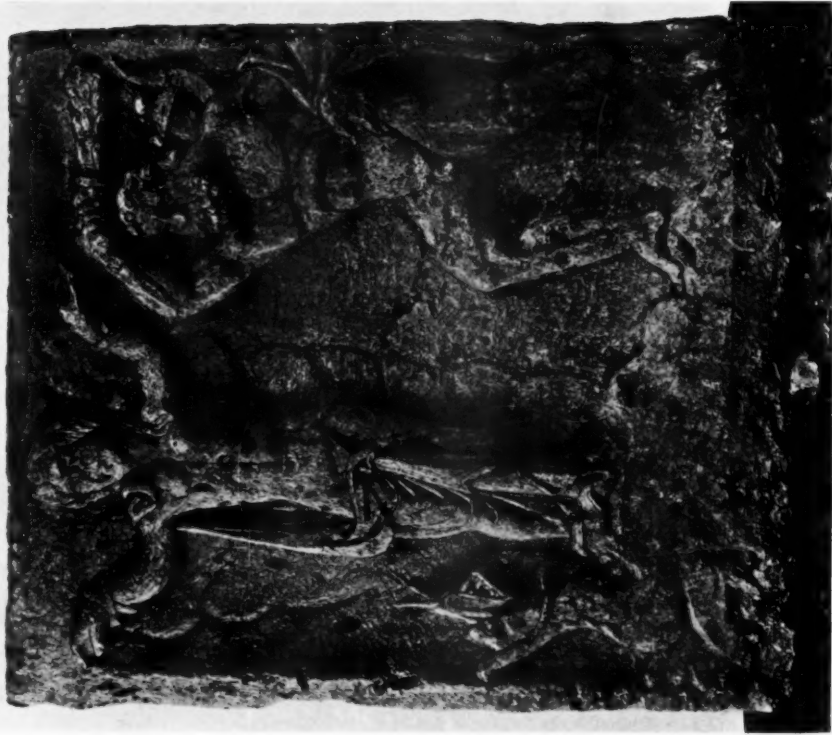
1. ORPHEUS CHARMING THE BEASTS WITH HIS LYRE



2. ORPHEUS BRINGING BACK EURYDICE



1. HERAKLES BRINGING BACK ALCESTIS FROM THE DEAD



2. HERAKLES DELIVERING HESIONE FROM A SEA-MONSTER

PLATE XVII.—BUDAPEST MUSEUM. GRAVE RELIEFS

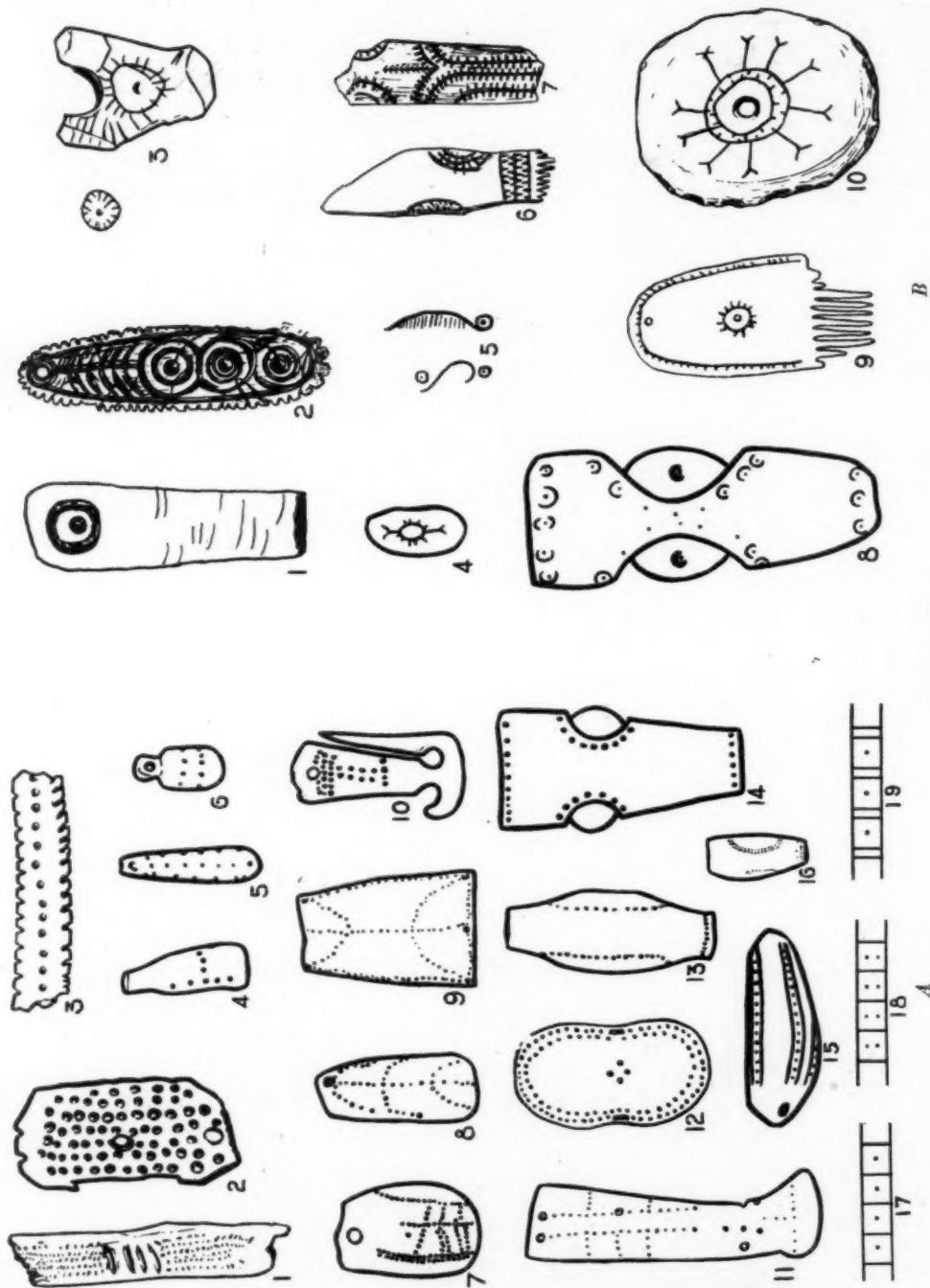


PLATE XVIII

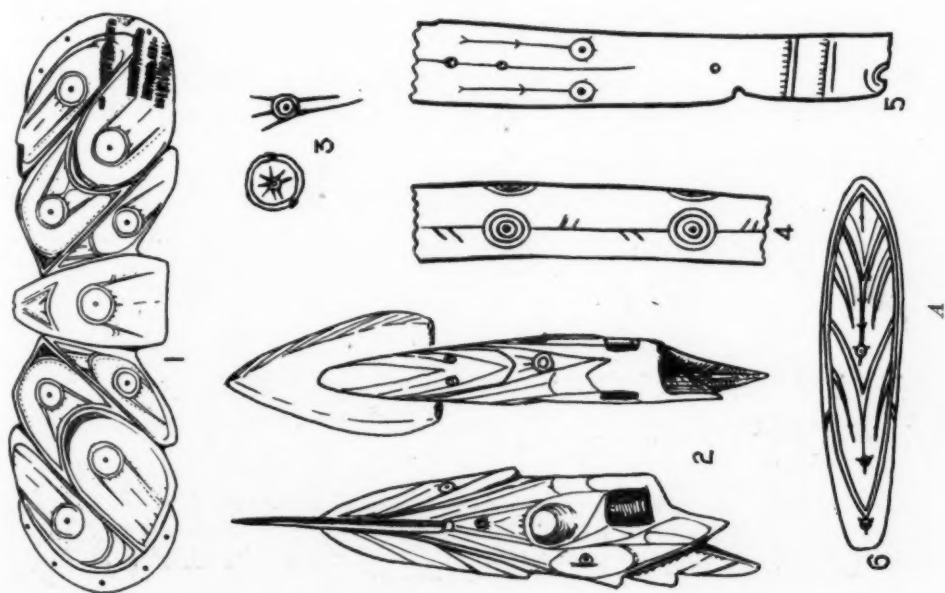
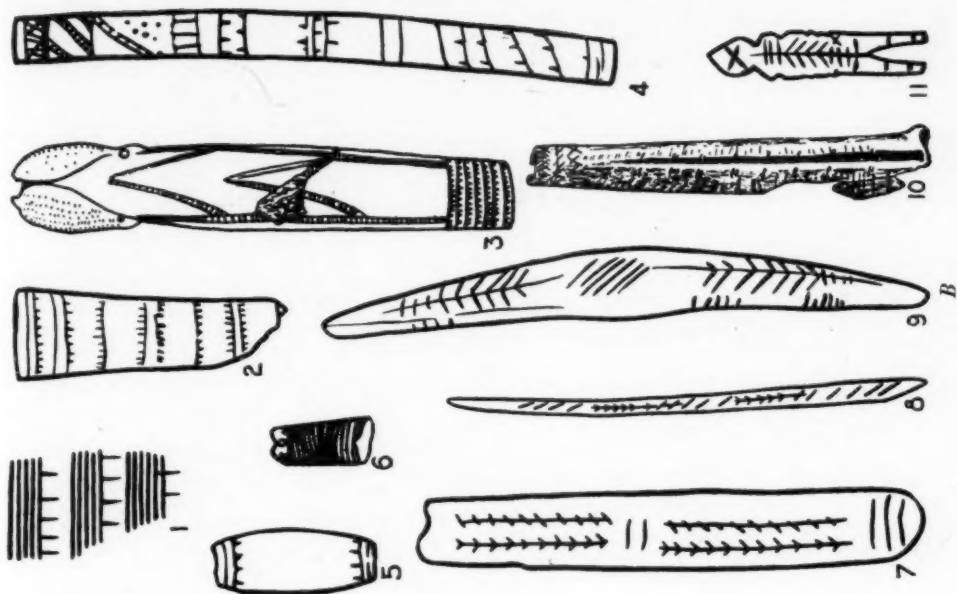


PLATE XIX

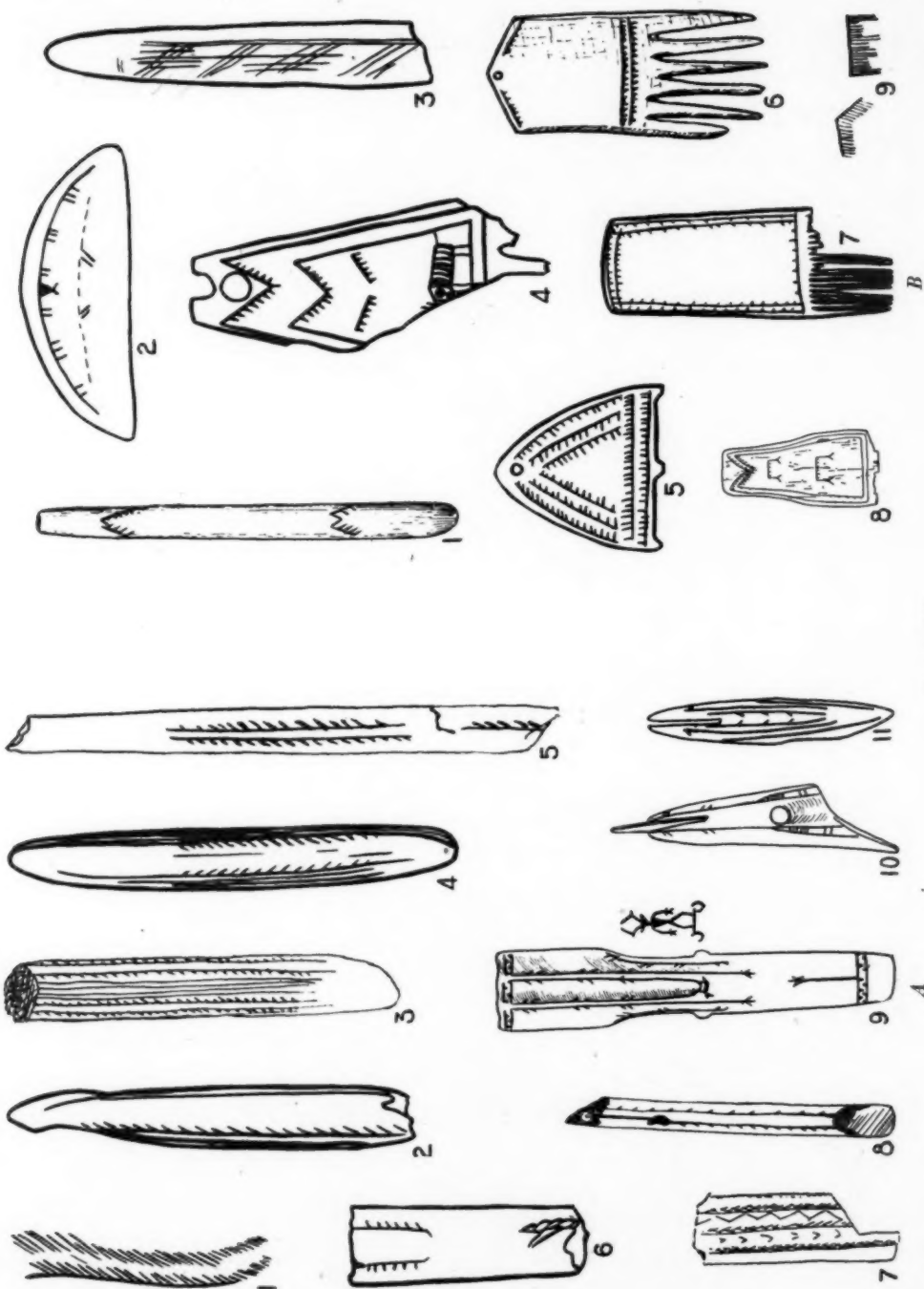


PLATE XX

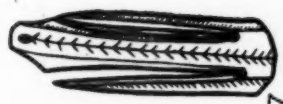
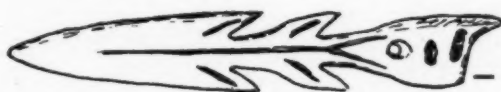
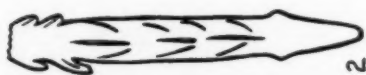
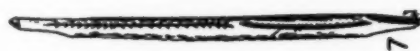
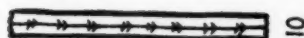
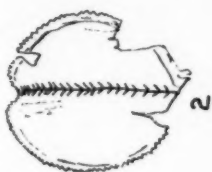
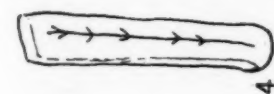


PLATE XXI

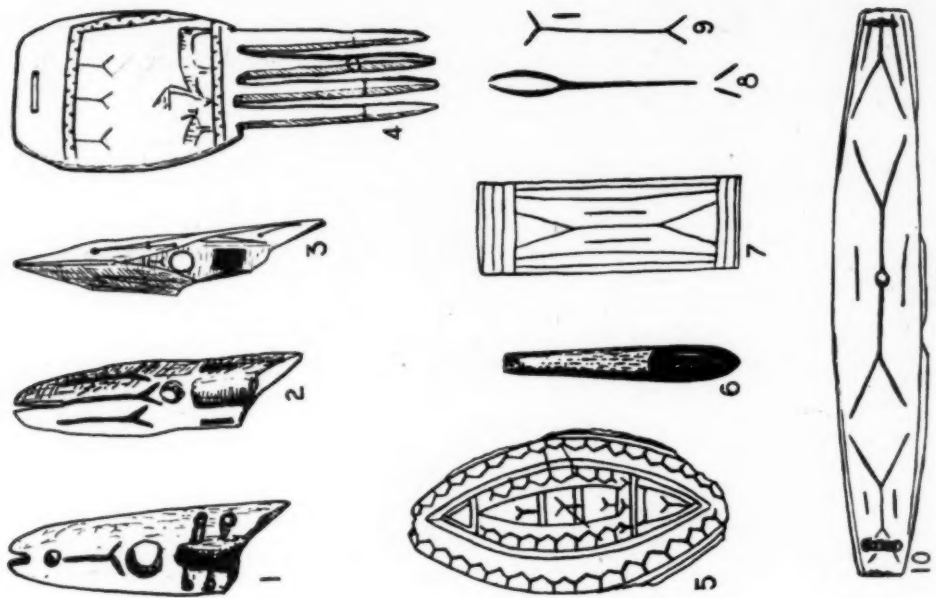
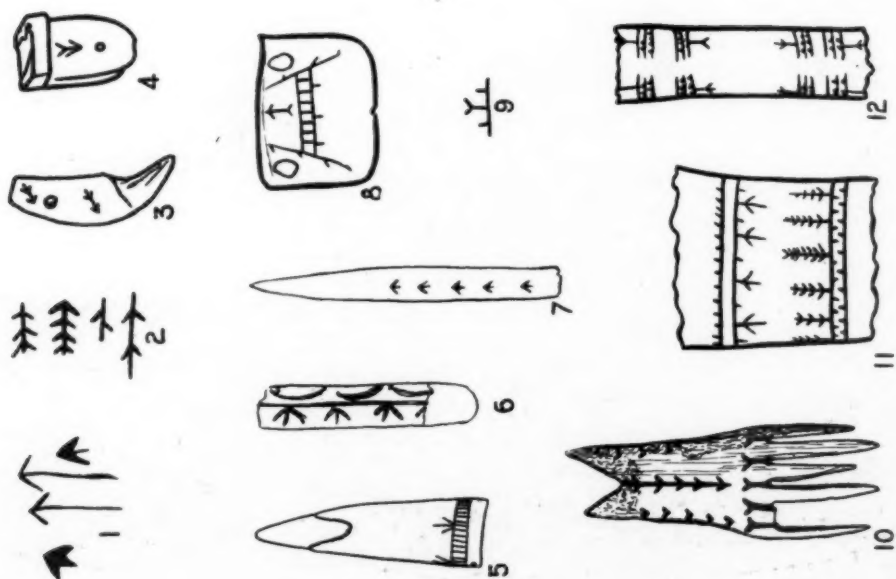


PLATE XXII



A

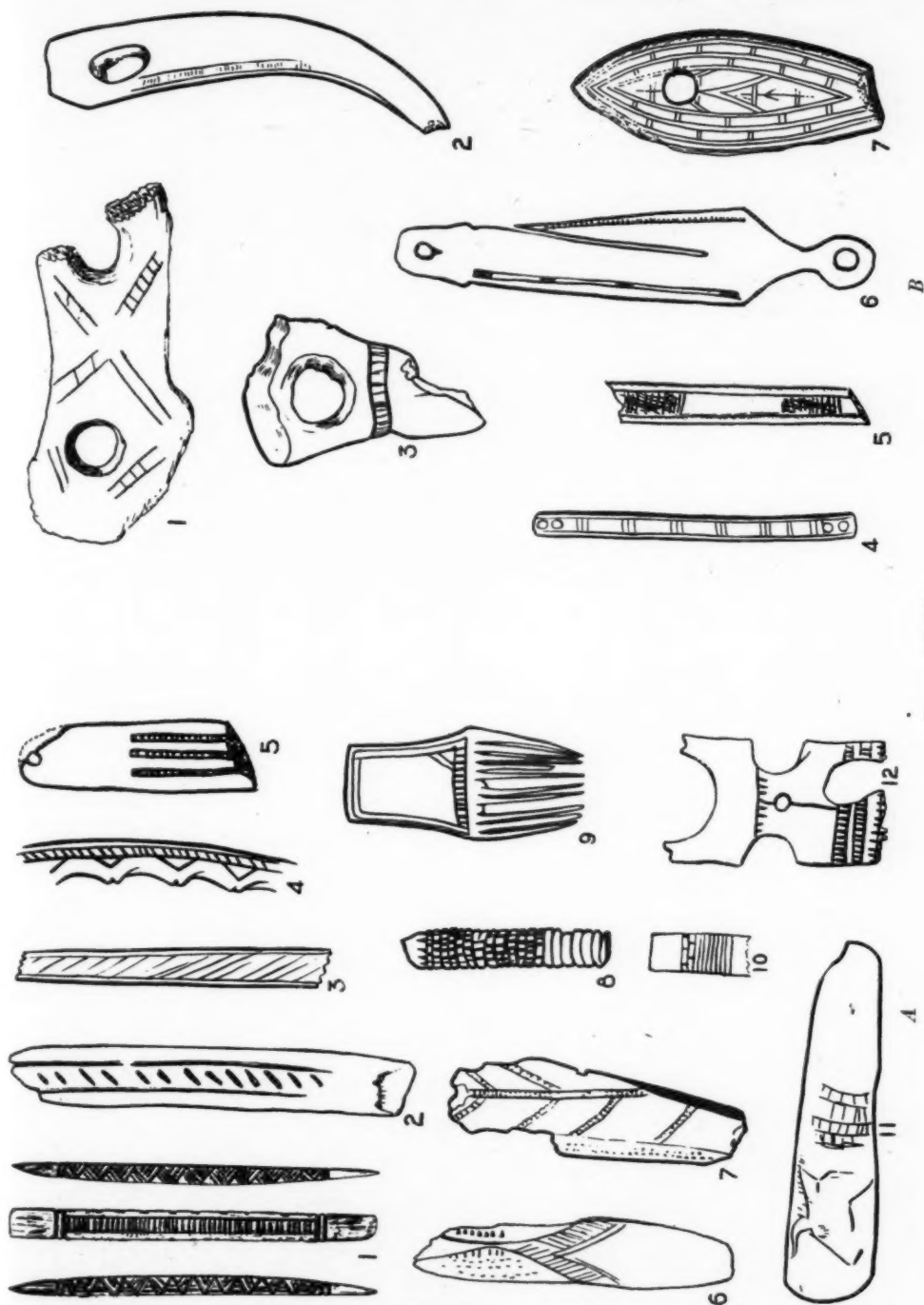


PLATE XXIII

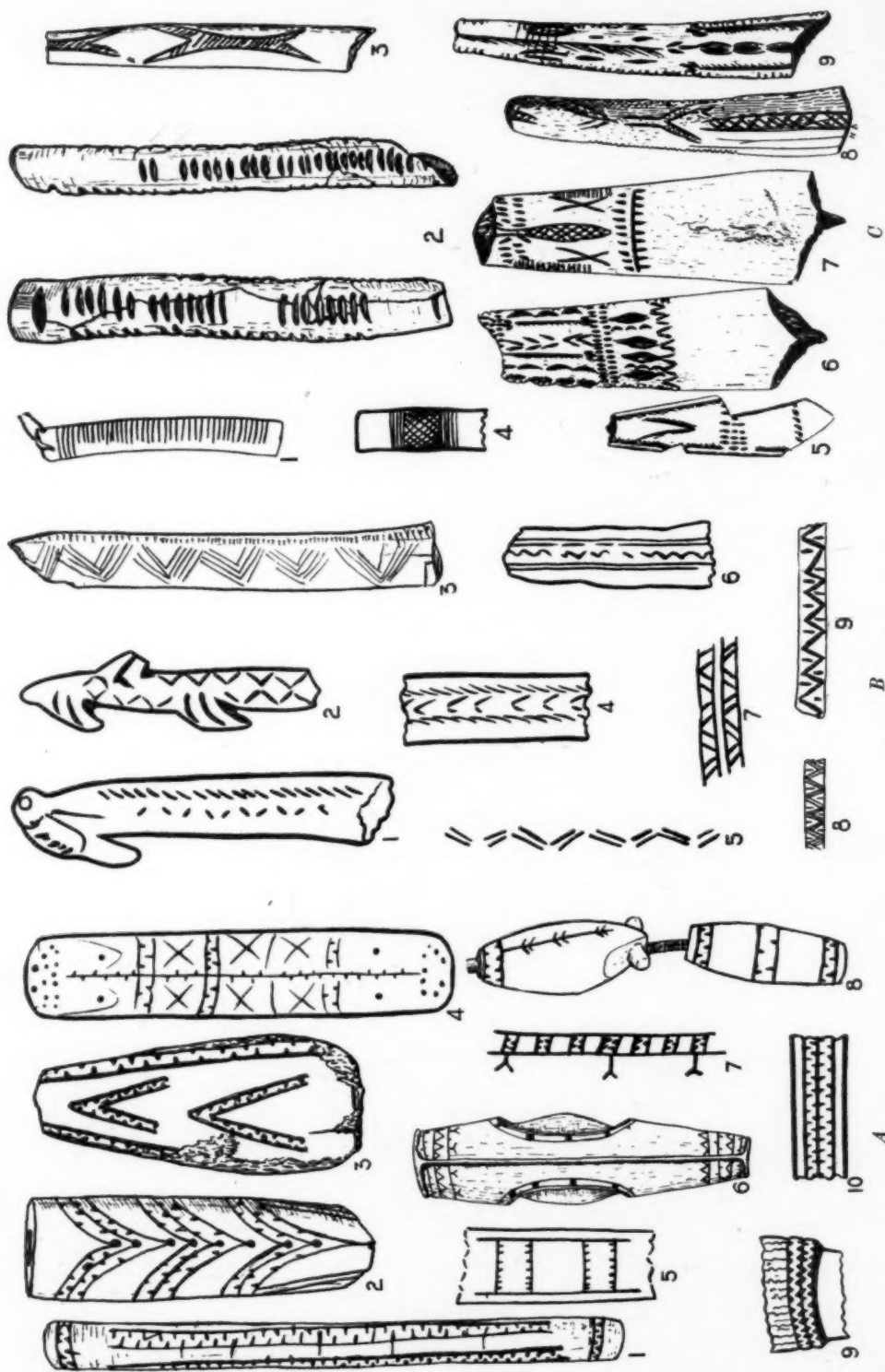


PLATE XXIV



FIG. 1.—PERACHORA. GEOMETRIC BRONZE HORSE. FROM VOTIVE DEPOSIT



FIG. 2.—PERACHORA. BRONZE GORGON
Ca. 550 B.C.
FROM VOTIVE DEPOSIT

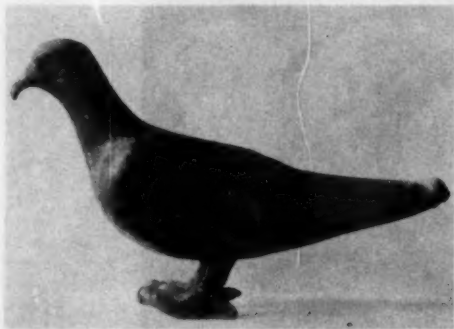


FIG. 3.—PERACHORA. HERAEUM. BRONZE DOVE
SEVENTH CENTURY B.C.



FIG. 4.—PERACHORA. IVORY SPHINX
EARLY PROTO-CORINTHIAN



FIG. 6.—PERACHORA. THE SMALL HARBOR,
FROM THE WEST. IN FRONT, FOUNDATIONS
OF SIXTH CENTURY TEMPLE

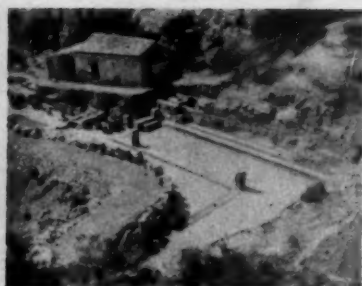


FIG. 5.—PERACHORA. STOA. END
OF FIFTH CENTURY. CHAPEL OF
ST. JOHN. FROM THE EAST



FIG. 7.—PERACHORA. PROTO-
CORINTHIAN FRAGMENT. EARLY
SEVENTH CENTURY



FIG. 8.—PERACHORA. HANDLE PLATE OF COLUMN CRATER
MIDDLE CORINTHIAN